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Commentary

- 4 From the Editor
- 10 Letters

New & Notable

- 12 What's New
- 15 IBM refreshes NetVista and ThinkPad product lines
- 21 Motorola looks at consumer electronics power alternatives
- 28 Intel pushing out consumer electronics

Gift Guide

- 16 Wrap yourself a multimedia Christmas
- 18 Audio and video toys for the whole family
- 22 Riptonite protects your notebook
- 24 Scan and build contact database
- 26 Gifts to enhance mobile computing
- 30 The mouse before Christmas: XP looks at online shopping
- 34 GIFts for the palm-top generation
- 38 Apple with Intel
- 44 Spreading the joy of cable-free high-speed

Hands On

- 48 The mother of all components
- 50 TDI Lab tests motherboards for new processors
- 58 Stylin' ODR: Epson's new Inkjet workhorse
- 56 Phenom 4: Athlon motherboard survey
- 66 Negotiating the perils of upgrading

Tech Enterprise

- 20 Banking on small operators
- 22 Small business portals expand offerings for Canadians
- 23 Reluctant travellers turn to the Internet
- 25 Adobe means business with PageMaker 7.0

Platform News

- 30 'Tis the low-cost Mac season
- 32 Microsoft stays on message at XP launch
- 33 Handshaking around TiVo

Careers & Training

- 39 Office Suite Training: Word command centre
- 41 Flash Forward: Tools of the trade
- 42 Rethinking up on Linux
- 43 Quick Tips: Microsoft Publisher tips and tricks

Reader Services

- 58 Advertising Index
- 100 Business Directory
- 102 Classified
- 102 User Groups

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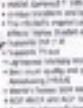
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— 10 —

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- initial screening: 100,000 seroconverting women
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 - the results suggest transmission rates are multiple times higher than those observed in studies
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A moody, distracted crowd



Diane Therrien

Assembling the holiday gift guide issue usually kicks off the festive spirit, but this year seems more subdued overall. Perhaps TCP's own production schedule has something to do with it. For example, I'm writing this editorial a week before Halloween—the public still have a few more days before the elves can make their deliveries. Another reason is the general mood of uncertainty since Sept. 11. If you follow the business news, you know some sectors, notably air travel, tourism, and finance, felt off a cliff shortly after terrorist attacks in the U.S. But even before, the economy was showing signs of slowdown.

The personal computer industry, which has been spiced by double-digit growth for years, has seen its first bust since IDC Canada's latest report notes that PC shipments in the third-quarter of 2001 declined by 17.5 percent, compared to the same period a year ago. That means not to exceed those quarters of a million PCs being sold in Canada, from July through September.

One topic that's received some strong in technology quarters is the rule Microsoft's latest operating system revision, Windows XP, will play as revolutionizing a stagnating PC industry. For PC owners who use the Windows 9x family (95, 98, and ME), XP is one of the most significant product releases of the year, but less so for users of Windows ME or 2000. Windows ME was simply the friendly and willing OS, albeit somewhat flaky, while NT was more stable but demanding.

While this is something of a simplification, as Windows XP, Microsoft has used the more stable NT5000 core, and wrapped it with consumer-oriented features, such as device support for a broad set of peripheral devices, and applied to new tasks like printing digital images or communicating over the Internet. The Windows graphical interface gets a makeover as XP runs Stable like NT, friendly like 98, we've a privacy message during the Windows XP launch event in Toronto. But oddly, and maybe ironically, even the Oct. 25 meet played to a subdued and distractied crowd. Faculty, it

had to be related to the malaise in the industry and the uncertainty about world events. But also it was simply a Moody autumnal storm that conspired against Macmillan Canada's fortunes, held in a large tent. Pressure and audience members tried to stay focused while the children in the gallery crashed occasionally and the fabric mounted and ripped off the wall. Only one question was asked during the Q&A afterwards, whether Windows XP would help PC sales. The answer was unanswerable.

Questions about the controversial Product Activation requirement weren't even raised. When I attended a Windows XP briefing in Redmond, Wash. in February, there were more than a few product reviewers steamed at Microsoft's piracy solution, but Microsoft group vice-president, Tom Aldrich, said the company would be steadfast in its pursuit of activation, but suspension notices aside, using the Windows 2000 kernel for XP has to be good news. Among the technology journalists and software reviewers I'm in contact with, there's a near universal agreement that Windows 2000 is bad and shouldn't show any version of the fix box when it comes to stability, although driver and application support especially for games, can be problematic. Likewise, based on the feedback I've received from people testing the beta version of XP, there are no show-stopping flaws that have been discovered, and so far it looks like a worthy upgrade—but as previous Windows upgrades, that has to be qualified with "as long as you have compatible hardware and enough horsepower" (300 MHz processor and 128 MB of RAM recommended).

A coming event that may have influenced from Sept. 13 statistic is the annual Fall Comdex show in Las Vegas. Some news reports have predicted that attendance this year might be down by 10 percent or more.

But we've been recovering as usual. Lending credence from exhibitors as we have in previous years, and we still consider it one of the most important technology shows

of the year, so in mind, we'll be attending. The show takes place Nov. 12 to 16, right around the time that Macmillan the stores. We'll have a short report in the following issue, along with daily updates on [ComputerPaper.ca](http://www.computerpaper.ca).

A couple of products we'll be curious to see are the Emerson Clapton and Sonoboard Virtual Keyboard. The former release on the Clapton says it "translates and encodes keyboard text and graphics from digital paper delivered via Bluetooth." We don't know what that means, but hopefully we'll find out. The Virtual Keyboard is described as "a small hand-like device that attaches to the palm of the hand and allows users to type on any surface as if it were a keyboard."

One technology for which we've received a number of product announcements is recordable DVD. There are still some issues that need to be resolved before we would recommend this as a no-brainer purchase, not the least of which is in the three competing specifications DVD-R, DVD-RW, and DVD+RW. But with 26 to 40 GB hard drives becoming the 80 GB capacity of recordable DVD is quite inadequate for backup, so we need for the media gigabytes of recordable DVD discs.

Elsewhere, there seems to be a growing interest in DVD movie mastering, and a range of the levitations we've received are to see various DVD authoring tools. With digital video cameras approaching \$1,000, and new DVD-enabled editing tools like MAGIX Video Plus 3, this will be one technology to watch over year.

Enjoy the issue!

Diane Therrien, Editor



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Two takes on the Windows XP series
Re: Windows XP preview Part 3 [See the November issue]. I really like your way of explaining things—it sounds like most of us talk

to ourselves while trying to install new stuff! Great tips too, they will come in handy.

Stephen Johnson

After reading the October issue's report on Windows XP [Windows XP preview Part 2], I

felt like I was reading a press release from Microsoft. I had hoped for a balanced report, both good and bad. I know that XP will do all the [name] jobs as Windows Me, but I want to know what hidden surprises there are that probably compromise privacy [and] compatibility with other software.

Ross Freedman

Where's the Java

The last that the Java tutorials that you've written for the Computer Paper are no longer on their [Computerpaper.com](http://www.computerpaper.com) site. Where else would they be shown, online? Thanks,

Stanley Major

TDP replies: We Java tutorials are still displayed on the Computer Paper website. Just click "Publication" on the black navigation bar at the top of the [Computerpaper.com](http://www.computerpaper.com) home page, click on The Computer Paper, the appropriate month, and you'll find the Javalets in the "Games and Puzzles" section.

We were also posting the series in the "How-To" section, but due to some scheduling problems, recent installments have not been posted there.

We hope to correct this soon, but as of now, you can access them material on the monthly issue archive.

The next new installment runs in the January 2002 TDP.

The continuing cost of inkjets

Should it be possible for TDP to do an article comparing different inkjet printer manufacturers and their ink prices?

I have an Epson Stylus 900 from 1998 and find that if I only print in black, a full-colour ink cartridge slowly disappears. I find that one colour cartridge lasts for about two to three black cartridges even if I never use the colour. My price for the colour cartridge is \$3.85 and black at \$17.99. Total is \$65.25 plus GST.

It seems with new bottles and printers you are the equal of what TDP is saying we're selling for around the \$80. It's almost cheaper to keep buying new cheap printers than it is to keep paying through the nose for generic ink cartridges.

I hear from friends that they are having the same beat that I have, even though they use different brand printers than mine.

It seems bad enough that equipment gets obsoletely obsolete once every three years and Microsoft does the same with software every one to two years. Former Everett Henscher

TDP editor's final suggestion: Your phantasmal color consumption does amazement. Although manufacturers charge us for it, we sometimes joke that they prefer marketing it as disposable waste—put the printer (or the more hideous) very inexpensively and make the rest dough on the refills.

We have to admit that a modern inkjet printer is quite sophisticated, and to compare it to an old lump of material that's joined into a new handle is unfair. At the same time, we don't think any inkjet maker would deny that profits on inkjet cartridges are decent. Q

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COMPAQ
Inspiration Technology

IBM refreshes product lines

Introduces ImageUltra for management

By David Tonkka

If you remember MAX and XTRA, you've got a handle on IBM's refreshed NetVista desktop and ThinkPad notebook lineup.

Equally significant, if not more so, is a PC management system called ImageUltra that IBM Canada also announced during a briefing in Toronto in early October to showcase the new lineup.

ImageUltra is aimed at IT departments and resellers goal is to improve the efficiency of updating operating systems, drivers, and application across a company's base of PCs.

New NetVista options:

IBM has categorized its NetVista desktop offerings according to three-tier designations: M, A, and X. The M and A series represent the premium and budget lines respectively. Only Pentium 4 processors (and the Intel 845 chipset) will be used on the M series.

The current line includes 1.6 GHz, 1.8 GHz, and 2 GHz variants of the processor. The M series will support up to 1.5 GB of RAM. An embedded security (encryption) chip will be available on some models in this series.

The A series will use either Pentium III (1.6 GHz) or Celeron (800 MHz) or 1.1 GHz processors and an Intel 810/22 chipset.

As well, there are other differences in components, operating system options (Windows Me is available on the A series, but not on the M series) and warranty (three-year coverage for M series, one year on first and second and third year parts exchange only for A series). The embedded security chip

the small footprint that made it a design hit when it debuted. There is no PC "box" since the motherboard and other components are located in a small enclosure that sits behind the flat panel screen.

The X series now uses Pentium 4 processors, 15-inch or 17-inch flat panel screens are available.

ThinkPad

The biggest news in the ThinkPad lineup is the elimination of the z series, which has been replaced with a new R economy line.



ThinkPad

The z series started out as a consumer model, and was not well integrated with the other ThinkPads, which were designed to share components such as removable drives, extra batteries, etc. through a common UltraBay device bay.

The R series—which has about the same dimensions as the T series but is 400 g (1.8 kg) heavier (for a total of just under 2.7 kg, or 6 lb)—can share common components with other ThinkPads. The ThinkPad A, T, and X series have undergone major updates.

Two interesting ones are integrated 802.11 and Bluetooth wireless and built-in security chips (encryption) on some models.

The company also announced a line of UltraBay Plus devices (not compatible with ThinkPad having the original UltraBay) including a slide-

out memory keeper and docking bay for Palm/WorkPad handhelds.

Improving IT's image

As Peter Stoen, IBM Canada's NetVista product sales manager, noted in his presentation, keeping track of the IT needs of even a small enterprise can be a nightmarish because of the diversity of hardware, operating systems, drivers, and work-specific applications. IBM's solution is ImageUltra, which gives one better than the master software usage load

method typically used to update computers en masse.

Stoen said the main drawback to this master software usage load method is that it doesn't take individual variations (such as hardware age or specific applications needed by some workers) into account.

ImageUltra, on the other hand, creates a taper range by modulating the master file elements, each of which can be dealt with separately for a greater degree of customization. □

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The NetVista X series continues with

Have yourself a multimedia Christmas

Audio and video toys for the whole family

By Sean Corcoran

Keyboards and Mack CD-Rs are great presents, but when people usually want sat at the top. When it comes to computer toys, a lot of people just can't get enough of that old media. Here are a few audio and video toys, for kids and adults alike.

Audio

Intel Personal Audio Player 3000

From Intel Corporation

multimedia.com

Estimated price: \$200

An update to Intel's earlier entry into the world of MP3s, the Personal Audio Player is a slightly scaled back and easier-to-afford alternative.

The player sports 64 MB of onboard memory, and there's a slot under the battery door for an optional MultiMedia Card (MMC)—which is good for an additional 44 MB. The player runs on a single AA battery (included) and connects to your PC via USB.

To make the player more personal, as per its name, the front panel comes off, allowing you to put in your own specially designed insert. You can design print ones with the included software, or use one of the five included in the box. A set of ear-head headphones is included, and the player has a belt clip. It can handle both MP3 and WMA files. To get you started, two tracks are included, the first of which is a tutorial on how to use the device. The player is compatible with Windows 98, ME, 2000, and XP.

Rio Volt SP250

From SONIC Blue

www.soniceblue.com

Estimated price: \$100

The new wave of MP3 audio devices features many CD-based models, which makes sense—CDs are familiar to those who love music, and portable CD players

have been widely adopted.

The Rio Volt SP250 is the newest player in the popular Rio line, and it's designed to play both standard audio CDs and specially branded MP3 CDs, which can hold 10 to 20 hours of CD-quality audio.

The Volt SP250 handles both MP3 and WMA files, and supports folders, so you can keep your albums separated. It has nine-eight measures of built-in shock protection, and also has a built-in FM radio for those tragic tunes when you come to the end of the CD.

The Rio SP250 is powered by two AA batteries, and comes with two NiMH rechargeables, which are swapped out when you connect the player to the included AC adapter. If you don't have a pocket not able for carrying the player around, the package also features a glove-style case that protects the player and features a belt-loop carrier and a detachable shoulder strap.

A large LCD window makes it easy to see what track is playing, adjust the EQ, or search for music. The player comes with a basic clip-on remote, but for \$130, you can get a remote with an LCD window. Of course, you'll have to have a CD burner on hand if you want to create your own MP3 discs. One of the nice bonuses the Volt SP250 comes with two different sets

of headphones, one lead-style and the other with a folding headband.

Samsung Baby YEP2 (YP-20)



From Samsung Electronics

www.samsung.ca

Electronique.ca

If you want an MP3 player but affordability is more important to you than a large display and a bunch of extra features, the Baby YEP2 offers a more basic alternative. Small enough to tuck in the palm of your hand, the \$39.95 Baby YEP2 comes with 32 MB of onboard memory, and a USB port for transferring files.

The headphones that come with the player double as a neck strap, allowing you to hang the player itself like a pendant from your neck. The player is com-

patible with Windows 98, ME, and 2000, as well as Mac OS 8.1 through 9.0.4. It runs on a single AA battery. A 64 MB version of the Baby YEP2 will also be available, but the pricing hasn't been finalized yet. Expect it to be around \$80 or less.

Telus Mobility/Samsung Upuser

From Telus Mobility

www.telmobility.com

Estimated price: \$200

It's a given that the MP3 revolution has been a success, because digital audio is taking up everywhere—despite your dial-up neighbourhood cellular phone.

The Upuser is a compact dual-mode cellular phone (both 1.9 GHz and 800 MHz bands) with all the features you'd expect of a



Continued on page 18



By Berlin Stevens

After sending a cryptic invitation to the press—followed by a week in which the source was reported at full tilt—Apple unveiled its “revolutionary” new MP3 device, an MP3 player called the iPod (www.apple.com/ipod). Is it revolution and let's take a look.

One of the most important elements of any MP3 player is storage, and the iPod has a 5 GB drive that holds approximately 1,000 songs. In order to hold that amount, though, the iPod uses a small hard drive instead of Flash RAM. This means it needs more power and has a possibility of skipping.

It does have a 32 MB RAM buffer that translates into about 20 minutes of skip protection. It's powered by a belt clip hidden polymer battery (the same type that's used in its new iMacs). In the iPod, the bat-

Apple's iPod a solid MP3 player

It's rated for 10 hours of playback and needs three hours to fully recharge [it recharge 80 percent in one hour].

The iPod's most unique feature, however, is the way it connects. Using the FireWire standard Apple helped create 5.6 MB of audio



files can be transferred from a Mac to the iPod in five to 30 minutes—during which time, the battery is recharging.

The iPod interfaces with Apple's iTunes 2.0 software (included with the iPod and available online for free), so music and playlists can be synchronized between an iPod and Mac; every time it's plugged in.

The last great feature of the iPod is its

size, which is small, simple, and elegant. From the front, the iPod has a minimalist white face with a large backlit LCD, five buttons, and a jog dial. It can be switched by artist, title, or playlist, and the jog dial controls help quickly navigate through the library. The simple interface seems to solve the navigation problems common to many MP3 players.

This is a basic MP3 player that can store 1,000 songs, run for 10 hours, and sync with your Mac all in a package slightly smaller than a Palm handheld or a deck of cards. But is it revolutionary? Hardly, but it is a well-designed product that does one thing and does it well. The iPod comes with a 2 m FireWire cable, AC adapter, earbuds, headphones, and an iTunes 2.0 CD.

There is one downside to the iPod—the price. At US\$399 (Canadian pricing was not available at press time), it won't be in everyone's stocking. The iPod will be available Nov. 10. **GJ**

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Hear yourself a multimedia Christmas

Continued from page 16

modern cell phone, including video menus, statistics and wireless Internet capability; voice dialing; and a hands-free feature.

Additionally, it features a built-in MP3 player with 64 MB of internal memory for up to an hour of MP3 audio.

The controls for the player are on a clip-on remote that sits between the phone and the headphones and has a big

button for quickly switching between MP3 and telephone modes when calls come in. It's powered by a rechargeable lithium ion battery that is rated for up to three hours of talk time or 15 hours of MP3 playback.

Video**ATI DV Wonder**From ATI Technologies Inc.
www.ati.com

Estimated price: \$79

If you want to start dabbling in digital video but don't have a FireWire or your PC, ATI offers the DV Wonder. Essentially a three-port FireWire card, compatible with all FireWire devices, the DV Wonder comes with Ulead Systems' VideoStudio Pro 4 for DV capturing and editing. It also comes with a DV cable for hooking up your cameras. While there's not a huge menu index here, it's a very solid solution at a very good price.

Cinevate CinemaFrom Cinevate Computer Co., Inc.
www.cinevate.com

Estimated price: \$599

For the latest in app camera clock, see Cinevate's Mint Camera. At 2.5 oz., it's extremely small, weighing more than a slightly overripe watermelon, but the top of the watch has a tiny fire cap.

Bleach black and white photo of a close-up of 120x120 pixels.

The watch itself will hold up to 120 such pictures, and when you're ready to transfer them to your PC, you use the infrared sensor and the infrared PC Link Kit, which connects to your PC via serial cable and is compatible with Windows 95, 98, and NT 4.0.

While the pictures are a bit grainy, the owners aren't designed for ultra-professional use, but they're designed for a lot of fun, or for taking a quick snapshot of something to help you remember a face, an anniversary, or what have you.

Intel Digital Movie Creator

From Intel Corp.

www.intel.com

Estimated price: \$699

Last year, Intel introduced the Sound Morph, a portable device that recorded digitized audio, allowing you to upload it back to your PC. This year, the Digital Movie Creator goes one better, adding full-motion video to the mix.

Though it looks a little like a real price-

Continued on page 28

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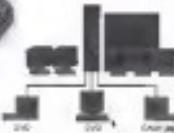
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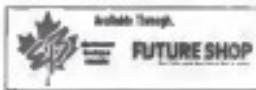
The TSS-1 offers easy systemization with a logic easy-to-use menu that lets you switch for 2 digital (optical and coaxial) and 2 analog inputs. Then, just a simple to connect various components to enjoy different sound sources.

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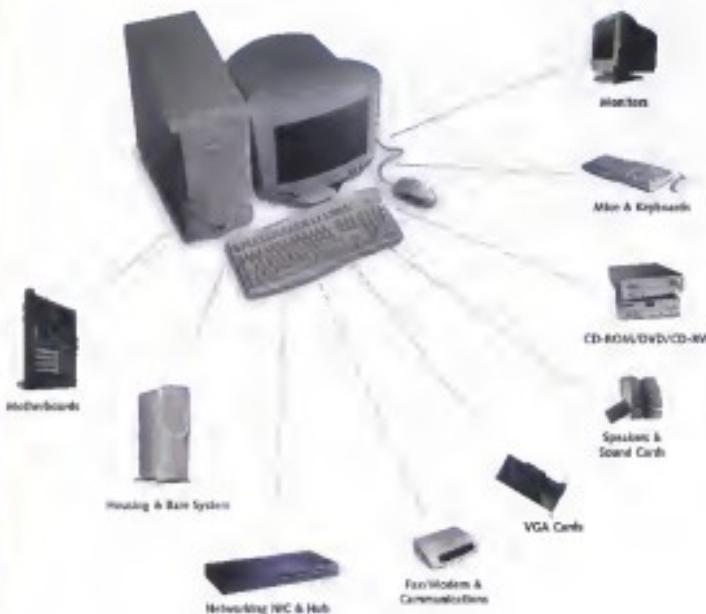


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Quick-Mount Cable Lock
From Kryptonite Corp.
www.kryptonitebikes.com
Price: \$15 (list estimated for S)

mm and 1-mm cable)

If you're a cyclist, you've probably heard of Kryptonite, the company that makes the

black U-shaped lock that revolutionized bike security and won a huge following. Now, Kryptonite Corp. has developed a line of devices to help prevent your notebook

computer from being nipped off. The Quick-Mount cable locks come in 1.8 mm (0.07 in.) or 6-mm diameter braided steel cable, sheathed in soft vinyl

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keying, with a coiled loop at one end and the lock hardware at the other.

The Quick-Mount series describes the unusual design of the two-piece locking system. A small stud is rotated into the lock body, and separates when the lock is opened. Meanwhile, the lock body stays attached to the cable by a screw mount.

The stud has a screw-down clamp that attaches it firmly to the computer keyboard so it penetrates 12 mm (0.5 inch) from the notebook's computer, and is designed to be left permanently attached. When unlocked, the two parts easily separate, making it simple to reposition the computer and the cable.

The Kryptonite cable locks are available with anti-pick locks (cyclic keys), or four-digit combination locks. In Canada they are being marketed by Reliance.

—David Tresker

Bluetooth notebooks get Bluetooth

Shawn White (www.toshiba.com) has announced that Toshiba (www.toshiba.com) is integrating its Bluetooth module in its new Tecra and Portégé notebooks.

The Bluetooth 1.1-qualified radio module and baseband processor will give the Tecra 8000 and Portégé 4000 series notebooks native support for Bluetooth wireless technology.

Typical Bluetooth applications include Internet access via mobile phones, as well as wireless file sharing, data transfer and synchronization among PCs, peripherals, and PDAs.

The suggested retail price for the Bluetooth-enabled notebooks start at \$1,499 for the Tecra 8000 and \$1,699 for the Portégé 4000 series. The Bluetooth module is an optional internal add-on, with pricing unavailable at press time.

—DCT Staff

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By David Tanaka

The Canadian Executive

Scan card, build contact database

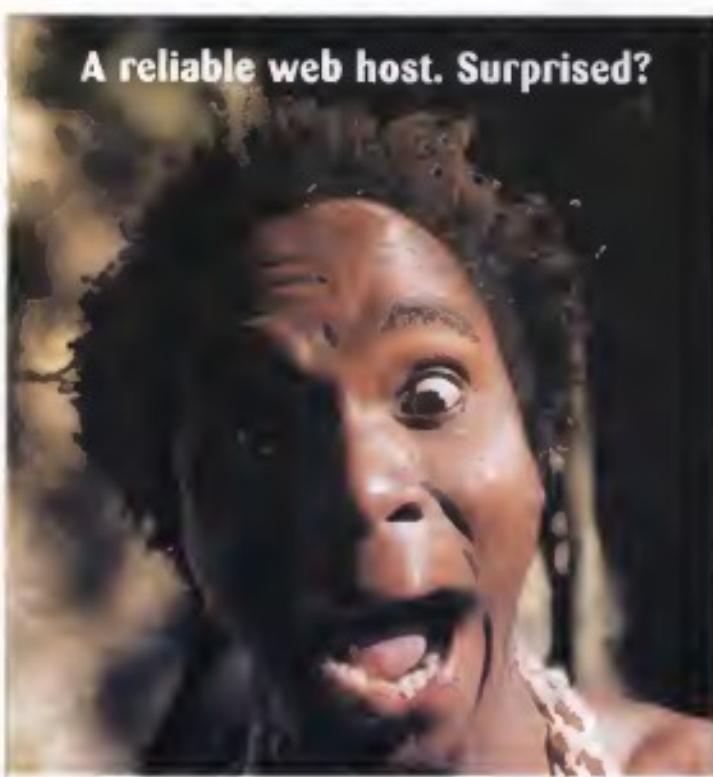
the latest incarnation in Com's line of business card scanners, is a good gift for the business person who collects a lot of

cards. The hardware portion is the CardScan 100c, which offers colour scanning and USB connectivity.

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The software, now at Version 5, includes utilities for scanner control, optical character recognition (OCR), and synchronization with contact management software and databases, along with the usual contact management application.

Why would you want a colour scanner just to extract contact information from a business card?

The answer becomes evident when you start using the contact manager, which is designed to look like a Rolodex-type rotary card holder.

During the scanning, the text information is OCR'd and placed into the appropriate fields.

A bitmap image of the card is also saved, and the card image, along with the extracted text information are presented together onscreen.

You see the contact as a listing in the database, along with the image of the actual business card—in full colour, if you wish.

As you move from field to field, the portion of the card that the information read from is centered in the image window—very helpful for pointing.

How well does it work? We used 30 business cards for our test database. The initial operation of scanning, OCR, and verification of data took about 40 minutes.

The initial scanning and OCR for the 30 cards was completed in about four minutes, and the balance was spent checking the information.

Of the group, 15 cards needed OCR correction, and only 10 were entirely correct.

That might sound like a high error rate, but most were minor. A common source of OCR error was postal codes—for example matching the number 1 for the lower case letter l, or the letter S for the number 5.

OCR for all-alphanumeric fields was very

• GIFT GUIDE •

good, and very few errors occurred with phone or fax numbers.

However, there were only a couple of mistakes with email addresses, and only one instance where the # symbol was not correctly read. What was impressive was the accuracy with which the software placed information in contact fields, regardless of where or in what order it appeared on the card.

The balance of the errors resulted from the software trying to decode logon or alphanumeric characters, including a character spacing, or placing logons or other text you wouldn't normally find on a business card in the wrong field.

As might be expected, the fewest errors were made on white or light-colored cards with plain black lettering.

Two cards were laid out in tall or portrait orientation, but did not pose any problems.

The worst case was a card that was made of textured stock covered entirely with grey and green ink, with the text reversed out in white.

The software was able to fit just one field of the contact, and that was a jumble of random characters.

Reversed text (white letters surrounded by dark ink) was not successfully OCRed on the test card that used that design.



A limitation of the CardScan database is that it is just a contacts manager.

Many people want more than that, and use personal information management hardware or software to also track appointments, schedules, tasks, etc.

Fortunately CardScan will synchronize with software such as Netscape, Organizer, Address Book, and Internet Mail. PalmHandspring, Prism, and PocketPC devices.

One feature we did not try is CardScan Net, which allows users to upload their contact databases to a secure Web site, giving them access to their contacts through a browser.

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Gifts to enhance mobile computing

For the notebook computer user that has everything—or nothing

By Geoff Whewright

Wether you're shopping for a notebook computer user or yourself a notebook computer owner who is asking a wish list and checking it twice, we have some gift ideas for you before looking at those specific ideas, however, it is worth noting a few tips on buying gear for your notebook.

- Keep battery life in mind. You presumably choose a notebook PC because you wanted to be able to work anywhere, even on a train. So, if battery operation is important, don't pick up devices that drain power very quickly. Most PC Cards and many USB drives, for example, draw power directly from your notebook. As a result, they can be a real drain on battery life.

- Think about size and weight. Don't take away from the notebook's ports

ability by adding on ones that are going to strain the use of your notebook shoulder bag. Likewise, think about the extra weight any add-ons may bring with them.

Compatibility: Make sure your PC has the ports (e.g., USB) and horsepower required by the items you ask for.

With these tips in mind, here are a few gadgets you may want to put on your list.

The list of activity



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Gifts to enhance mobile computing

Continued from page 26



Recharged's PowerPad (base model retails at \$995) extends notebook battery life.

Finally, if you really want to be able to use your notebook computer anywhere, ask for a solar panel and notebook computer plug-in. Devices, such as the Notipower Solar Module and SunnotePower (both by California based Global Electronics for around \$600, plus shipping) power many different kinds of notebooks from the solar panel—and can charge the batteries in those computers.

Connectivity

Many boosters now include some kind of high-speed Internet connection in their rooms, so if your notebook doesn't have Ethernet built in, an add-on card is a useful gift if you're a frequent traveler. On

for a wireless option, ask for an 802.11 card. Increasing numbers of airports are being equipped with access points, and the Starbucks coffee chain has plans to implement wireless Internet access in its stores. Late grade web + half hour access time plan.

Mobile recreation

There are tons of goodies you could easily fit under this category, but we're focusing on those that have little or no application to anything else but entertainment. The first is the USG game pad.

Most notebooks have pretty good graphics, so you may have tried playing some notebooks version games on your notebook. But using a keyboard and a track pad is certainly a pretty lousy way to play a racing game or a flight simulator. Enter Microsoft's new SideWinder Game Pad USB. With a price tag of around \$40, it's something you can plug into your Christianus with two without breaking. Although it's not designed specifically for notebooks, it's small enough to slip discreetly into your computer bag. As the name suggests, it runs from the USB port, provides six primary action buttons, two secondary buttons, and two triggers. The SideWinder GamePad Pro, shown here, is also USB compatible, but is about \$15 more than the GamePad USB model.)



Several of your notebook didn't come with a DVD player, consider an external drive—most models plug into the USB port. That option is not cheap, however, and will typically cost around \$100. However, prices are likely to continue dropping as this technology becomes more common. An intriguing variant is a combination DVD/CD-R drive. We know of one such device, from AddOnics, with a price tag of approximately \$750.

The final fun gadget for your notebook is a simple pair of headphones. If you travel a lot and like to play explosive games or watch movies on your notebook computer, a good pair of headphones is a useful addition.

I have found that the ideal solution is one that includes an external volume control (rather than a micro controls) and a

relatively long cable to connect you to the computer. Headphones start at very modest prices of less than \$10 and can go up to more than \$100. So you should be able to find a set you like—and one that fits Santa's budget, too.

Stylish protection



Finally, you may want to ask for a new case for your notebook. Some notebooks come with a shoulder bag when you buy them, but many do not. If you spend lots of time on the road, you may now be feeling its limitations. Is it constantly over staffed? Is the upper elbow getting stuck? Does the strap bear into your shoulder when you are running to catch a plane? You can always learn to pack a little lighter, or you can ask for a new bag. Prices can range anywhere from \$50 to many hundreds of dollars. □

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2.4/2.7/3.5/4.5/5.25/6.35/8.0/10.0/12.5/14.0/15.6/18.0/20.0/22.5/25.0/28.0/30.5/34.0/36.0/40.0/45.0/50.0/55.0/60.0/65.0/70.0/75.0/80.0/85.0/90.0/95.0/100.0/105.0/110.0/115.0/120.0/125.0/130.0/135.0/140.0/145.0/150.0/155.0/160.0/165.0/170.0/175.0/180.0/185.0/190.0/195.0/200.0/205.0/210.0/215.0/220.0/225.0/230.0/235.0/240.0/245.0/250.0/255.0/260.0/265.0/270.0/275.0/280.0/285.0/290.0/295.0/300.0/305.0/310.0/315.0/320.0/325.0/330.0/335.0/340.0/345.0/350.0/355.0/360.0/365.0/370.0/375.0/380.0/385.0/390.0/395.0/400.0/405.0/410.0/415.0/420.0/425.0/430.0/435.0/440.0/445.0/450.0/455.0/460.0/465.0/470.0/475.0/480.0/485.0/490.0/495.0/500.0/505.0/510.0/515.0/520.0/525.0/530.0/535.0/540.0/545.0/550.0/555.0/560.0/565.0/570.0/575.0/580.0/585.0/590.0/595.0/600.0/605.0/610.0/615.0/620.0/625.0/630.0/635.0/640.0/645.0/650.0/655.0/660.0/665.0/670.0/675.0/680.0/685.0/690.0/695.0/700.0/705.0/710.0/715.0/720.0/725.0/730.0/735.0/740.0/745.0/750.0/755.0/760.0/765.0/770.0/775.0/780.0/785.0/790.0/795.0/800.0/805.0/810.0/815.0/820.0/825.0/830.0/835.0/840.0/845.0/850.0/855.0/860.0/865.0/870.0/875.0/880.0/885.0/890.0/895.0/900.0/905.0/910.0/915.0/920.0/925.0/930.0/935.0/940.0/945.0/950.0/955.0/960.0/965.0/970.0/975.0/980.0/985.0/990.0/995.0/1000.0/1005.0/1010.0/1015.0/1020.0/1025.0/1030.0/1035.0/1040.0/1045.0/1050.0/1055.0/1060.0/1065.0/1070.0/1075.0/1080.0/1085.0/1090.0/1095.0/1100.0/1105.0/1110.0/1115.0/1120.0/1125.0/1130.0/1135.0/1140.0/1145.0/1150.0/1155.0/1160.0/1165.0/1170.0/1175.0/1180.0/1185.0/1190.0/1195.0/1200.0/1205.0/1210.0/1215.0/1220.0/1225.0/1230.0/1235.0/1240.0/1245.0/1250.0/1255.0/1260.0/1265.0/1270.0/1275.0/1280.0/1285.0/1290.0/1295.0/1300.0/1305.0/1310.0/1315.0/1320.0/1325.0/1330.0/1335.0/1340.0/1345.0/1350.0/1355.0/1360.0/1365.0/1370.0/1375.0/1380.0/1385.0/1390.0/1395.0/1400.0/1405.0/1410.0/1415.0/1420.0/1425.0/1430.0/1435.0/1440.0/1445.0/1450.0/1455.0/1460.0/1465.0/1470.0/1475.0/1480.0/1485.0/1490.0/1495.0/1500.0/1505.0/1510.0/1515.0/1520.0/1525.0/1530.0/1535.0/1540.0/1545.0/1550.0/1555.0/1560.0/1565.0/1570.0/1575.0/1580.0/1585.0/1590.0/1595.0/1600.0/1605.0/1610.0/1615.0/1620.0/1625.0/1630.0/1635.0/1640.0/1645.0/1650.0/1655.0/1660.0/1665.0/1670.0/1675.0/1680.0/1685.0/1690.0/1695.0/1700.0/1705.0/1710.0/1715.0/1720.0/1725.0/1730.0/1735.0/1740.0/1745.0/1750.0/1755.0/1760.0/1765.0/1770.0/1775.0/1780.0/1785.0/1790.0/1795.0/1800.0/1805.0/1810.0/1815.0/1820.0/1825.0/1830.0/1835.0/1840.0/1845.0/1850.0/1855.0/1860.0/1865.0/1870.0/1875.0/1880.0/1885.0/1890.0/1895.0/1900.0/1905.0/1910.0/1915.0/1920.0/1925.0/1930.0/1935.0/1940.0/1945.0/1950.0/1955.0/1960.0/1965.0/1970.0/1975.0/1980.0/1985.0/1990.0/1995.0/2000.0/2005.0/2010.0/2015.0/2020.0/2025.0/2030.0/2035.0/2040.0/2045.0/2050.0/2055.0/2060.0/2065.0/2070.0/2075.0/2080.0/2085.0/2090.0/2095.0/2100.0/2105.0/2110.0/2115.0/2120.0/2125.0/2130.0/2135.0/2140.0/2145.0/2150.0/2155.0/2160.0/2165.0/2170.0/2175.0/2180.0/2185.0/2190.0/2195.0/2200.0/2205.0/2210.0/2215.0/2220.0/2225.0/2230.0/2235.0/2240.0/2245.0/2250.0/2255.0/2260.0/2265.0/2270.0/2275.0/2280.0/2285.0/2290.0/2295.0/2300.0/2305.0/2310.0/2315.0/2320.0/2325.0/2330.0/2335.0/2340.0/2345.0/2350.0/2355.0/2360.0/2365.0/2370.0/2375.0/2380.0/2385.0/2390.0/2395.0/2400.0/2405.0/2410.0/2415.0/2420.0/2425.0/2430.0/2435.0/2440.0/2445.0/2450.0/2455.0/2460.0/2465.0/2470.0/2475.0/2480.0/2485.0/2490.0/2495.0/2500.0/2505.0/2510.0/2515.0/2520.0/2525.0/2530.0/2535.0/2540.0/2545.0/2550.0/2555.0/2560.0/2565.0/2570.0/2575.0/2580.0/2585.0/2590.0/2595.0/2600.0/2605.0/2610.0/2615.0/2620.0/2625.0/2630.0/2635.0/2640.0/2645.0/2650.0/2655.0/2660.0/2665.0/2670.0/2675.0/2680.0/2685.0/2690.0/2695.0/2700.0/2705.0/2710.0/2715.0/2720.0/2725.0/2730.0/2735.0/2740.0/2745.0/2750.0/2755.0/2760.0/2765.0/2770.0/2775.0/2780.0/2785.0/2790.0/2795.0/2800.0/2805.0/2810.0/2815.0/2820.0/2825.0/2830.0/2835.0/2840.0/2845.0/2850.0/2855.0/2860.0/2865.0/2870.0/2875.0/2880.0/2885.0/2890.0/2895.0/2900.0/2905.0/2910.0/2915.0/2920.0/2925.0/2930.0/2935.0/2940.0/2945.0/2950.0/2955.0/2960.0/2965.0/2970.0/2975.0/2980.0/2985.0/2990.0/2995.0/3000.0/3005.0/3010.0/3015.0/3020.0/3025.0/3030.0/3035.0/3040.0/3045.0/3050.0/3055.0/3060.0/3065.0/3070.0/3075.0/3080.0/3085.0/3090.0/3095.0/3100.0/3105.0/3110.0/3115.0/3120.0/3125.0/3130.0/3135.0/3140.0/3145.0/3150.0/3155.0/3160.0/3165.0/3170.0/3175.0/3180.0/3185.0/3190.0/3195.0/3200.0/3205.0/3210.0/3215.0/3220.0/3225.0/3230.0/3235.0/3240.0/3245.0/3250.0/3255.0/3260.0/3265.0/3270.0/3275.0/3280.0/3285.0/3290.0/3295.0/3300.0/3305.0/3310.0/3315.0/3320.0/3325.0/3330.0/3335.0/3340.0/3345.0/3350.0/3355.0/3360.0/3365.0/3370.0/3375.0/3380.0/3385.0/3390.0/3395.0/3400.0/3405.0/3410.0/3415.0/3420.0/3425.0/3430.0/3435.0/3440.0/3445.0/3450.0/3455.0/3460.0/3465.0/3470.0/3475.0/3480.0/3485.0/3490.0/3495.0/3500.0/3505.0/3510.0/3515.0/3520.0/3525.0/3530.0/3535.0/3540.0/3545.0/3550.0/3555.0/3560.0/3565.0/3570.0/3575.0/3580.0/3585.0/3590.0/3595.0/3600.0/3605.0/3610.0/3615.0/3620.0/3625.0/3630.0/3635.0/3640.0/3645.0/3650.0/3655.0/3660.0/3665.0/3670.0/3675.0/3680.0/3685.0/3690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The mouse before Christmas

A quick guide to online shopping in Canada

By Jeff Evans

Leaking forward to spending half of December tramping through crowded shopping malls, searching for the perfect gift for Auntie Merlin? No? Then how about the online alternative?

Can you shop from the comfort and privacy of your home and save time, money, hassle and queues by using the Internet for your holiday gift giving? Odds favourous to traditional brick-and-mortar stores should have to take steps to make the annual December buying fiasco less stressful.

What's shopping online in Canada?

In December 2000, more than 6.3 million Canadians visited online shopping sites, according to figures compiled by Internet measurement firm Alexa Metrix (www.alexa.com). Predictions say this year, that figure could top eight million unique vis-



ts by Canadian online shoppers. The Web has become an essential fea-

ture of shopping in Canada, but the number of actual purchases is still modest.

"From the buyer, you'd think it's been losses but the stats don't bear that out," says Roslyn Scotland, of the Retail Council of Canada (www.rccanada.org), about online buying. In Canada, the percentage of total retail sales done online is only about one percent of all retail sales.

However, Scotland cautions, "some sectors in certain sectors, such as music, report 10 percent or more of some categories of products being sold online." Scotland also points out that, from a fairly small base, online sales continue to grow rapidly.

As well, says Scotland, most Canadian consumers use small Web sites as "brassicas", to make price comparisons and gather product information. More often than not, says Scotland, a visit to a Web site eventually leads to a visit at a traditional bricks-and-mortar store.

Unlike the eternally optimistic Americans who seem to have been conditioned by their love affair with mail-order catalogue shopping to accept online

Continued on page 33

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Pentium Processor
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Pleasanton "Dragon" G4 Desktop
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Sonicblue 3.7V 2700W
Sonicblue 3.7V 3000W
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Sony 1.4GHz P40
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Omnivox AIO Models
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- Up to 16MB VRAM up to 1.0GB SDRAM memory
- Up to 16MB AGP 128-bit
- Up to 100MHz AGP
- Supports Ultra ATA 100 and Promise RAID 0/1



= GIFT GUIDE =

The season before Christmas

Continued from page 58

of each product.

As far as privacy goes, Canadian retail ems have to abide by Canadian Internet privacy laws that restrict the type of personal information they can collect and

how they can use it. Read the privacy policies of sites you visit, and don't agree to give information or allow it to be used for marketing purposes.

Tips for smart shopping online

1. Use the Internet for what it is good at,

it's the world's most productive technology for finding information, and it's very useful as a shopping aid. It can't deliver a physical object to you, but it can help you find almost any product or service, and quickly compare prices, and payment and delivery options.

2. Use a Web search engine, such as Google. If you want to find a Hudson's Bay blanket, for example, type in a search query "Hudson's Bay blanket" and links will appear to online auctions of Hudson's Bay printed blankets, catalogues that sell the blankets, and a link to the HBC.ca Web site.

3. Use online shopping malls or Web portals, such as Shoppers' Canada (www.shoppers.ca), for quickly browsing through different categories of retail goods. According to Shoppers' Canada's December, the number of users participating in this portal's total session has more than doubled in the last year.

4. When you find a store you like, save it in your browser's list of favorite sites, so you can find it again quickly.

5. Buy it on the Web if it makes sense. Computers, books, DVDs, CDs, video software, packaged foods, travel, hotel accommodations, flowers, greeting cards, and other small gifts are well suited to online ordering.

6. Order early. If you are going to rely on a Web retailer to deliver the purchase, check that the item is in stock, how long delivery will take, and the cost of the different mail or carrier delivery options. In 2000, online sales at the U.S. changed significantly in the last two weeks of December. According to Scotland, that was a mirror to consumer experiences in 1999, when thousands of purchases were delayed too late for the holidays because retailers were not prepared for the demand. According to Scotland, "with two years' experience under their belts, most online retailers are ready this year."

7. Go to a store if it makes more sense—especially if it's last minute. You may want to do your shopping and price comparisons online, use the Web site or a phone call to locate a retailer that has the item, then go there and purchase it. This "shake and bake" approach—a hybrid of Web and traditional retail—can help you take advantage of both the old and new styles of retailing. □

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Nobel Prize winners

Mid—You are right—bright winners at any point in history, as well as the many others who over the years have received the prize for literature, physics, economics, medicine, peace, and chemistry. This year, moreover, of the world's most prestigious award winners is the creation of the Nobel Museum itself. See 100 years of scientific and literary thought as presented in interactive and exhibits.

nobel.se

Gifts for the palm-top generation

By Geoff Whelehan

At last you've got a handheld computer small enough to fit at the pocket of your coat, let's you check your appointments, play some games and even synchronize with the email and address book you have on your desktop computer. "But what's it good for anything else?"

Well, actually you could. And Christmas is not too far off, so it's a good time to be doing the asking. After the first few weeks of working with your handheld, you probably realized there are lots of little extras that would be really neat to have.

These gadgets can include everything from a stylish leather case (nearly capable of doubling as a wallet), to a wireless communication add-on that provides you with instant, go-anywhere email and Web browsing. Here are a few eye-catching accessories for your handheld computer Christmas wish list:

Keyboards

If you had previously been using a handheld computer that had a built-in keyboard (as this writer does), you may find yourself a little shiftless using a Palm or Pocket PC-based handheld that only allows you to enter information and commands with a stylus.

All of that changed recently, however, when Think Outside the Type, folks,



Targus, and others began offering folding keyboards for use with palm-sized computers. These devices, which usually cost around \$50, actually go quite a long way to changing the experience of using a palm-sized computer.

They realize that when you really need a keyboard (for taking extensive notes at a meeting, for example), you have that option. And, when folded up, these keyboards are nearly as small as the palm-sized computer itself.

Storage



With handheld computers now being capable of playing video clips, MP3 music files, as well as storing e-books, PowerPoint presentations, and large email archives, there's more reason than

ever for extra storage.

Until the release of its latest devices, Palm offered no removable media storage options in its handheld lineup. The new models—M125, M500 and M350—support Secure Digital (SD) and MultiMedia Card (MMC) format cards. Pocket PC devices, typically use Type I or Type II CompactFlash (CF) cards, though earlier Windows CE-based devices were equipped with PC Card slots. HandSpring's Palm OS-based Visor line, with its separate Springfield expansion port, will accept different memory card formats depending on the adapter.

You'll also need to consider what you will be using the memory for. There would be little point, for example, buying a CF card that stores four hours of MP3 music if your handheld's battery can only run the MP3 software for a half hour. Solid-state memory is still quite expensive, running at \$1 to \$14.40 per megabyte depending on the capacity of the card.

Audio



If you are keen to make your handheld the only mobile digital device you carry, you may want to add a device that will allow it to play MP3 music. Many newer handhelds (most Pocket PC-based devices) include this function "out of the box," so won't need an add-on. But there are plenty of HandSpring Visor users who will, and they will typically pay \$300 to \$400 for the extra. MP3 players add-ons include the Good "ShockJagger" foundSound Grand Audioplayer (which stores about 64 MB of audio, around 20 songs) or the iBassGear iMusic MP3 Player (which has room for up to 128 MB of music).

Likewise, you may wish to add digital video recording capabilities to your handheld. Though that function does come standard with Palm's Series 500 and many Pocket PC devices, once again, HandSpring Visor and Palm users will need to add a separate module to get this capability. It will come in the form of a digital video encoder module from companies such as EndPoint Systems, and Targus—and a well crated around \$100.



Bergman Video Receiver add-on

with French Series 300 and many Pocket PC devices, once again, HandSpring Visor and Palm users will need to add a separate module to get this capability. It will come in the form of a digital video encoder module from companies such as EndPoint Systems, and Targus—and a well crated around \$100.

Global Positioning System device

A potentially useful extra gives your handheld Global Positioning System (GPS) capabilities. By adding a GPS module, continued on page 58

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COLOR: BLACK

128 COLOR LCD

AMO THUMBDRIVE 800
PROCESSOR: 333MHz
DISPLAY: 160x128
MEMORY: 16MB
HARD DRIVE:
1.3GB
WEIGHT: 1.15
DIMENSIONS: 100x50x15mm
COLOR: BLACK

128 COLOR LCD

AMO THUMBDRIVE 800
PROCESSOR: 333MHz
DISPLAY: 160x128
MEMORY: 16MB
HARD DRIVE:
1.3GB
WEIGHT: 1.15
DIMENSIONS: 100x50x15mm
COLOR: BLACK

VISUAL CARD

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HARD DRIVE:
1.3GB
WEIGHT: 1.15
DIMENSIONS: 100x50x15mm
COLOR: BLACK

= GIFT GUIDE =

Gifts for the palm-top generation

Continued from page 36



use, you can figure out exactly where you are on the planet in any given moment. Products such as the GeoDiscovery Grid or the Nexus Handy GPS (both for the Handspring Visor), or the Magellan GPS Companion or Rand McNally StreetFinder GPS (both for the Palm V) will not only provide you with precise co-ordinates, that information can be viewed on a map. These devices typically cost around \$300. One caution, though: make sure the package you select includes base maps for Canada.

Communications, data and video



GEOGRAPHICS Sprout 5000x modem module

With the right add-on you can do everything, from using your handheld to make and receive voice phone calls to wirelessly browsing the Web. Wireless modems, wireless modems, and mobile phone attachments make all kinds of things possible for the well-equipped handheld. And these add-ons are now starting to appear for Pocket PC, Palm and Handspring phones.

In addition, Microsoft is scheduled to unveil its "Stinger" smartphone in the near future, while Ericsson and Qualcomm already offer smartphones that incorporate the Palm operating system.

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水的分子量和电导率

Audit with Int.

Continued from page 46

of users of the people who are it Maya is used by companies like Electronic Arts, Industrial Light and Magic, and PixarSoft.



Maya animation has been used in movies like *The Perfect Score* and *Star Wars Episode One*. If you want to get into 3D on the Mac and make a career out of it, Maya is the way to go.

your award-winning short film on your dual-processor PowerMac G3, and then burn it to a DVD that you can play on your iBook X-compatible wearable handheld.

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中華書局影印

For the ultimate expression, you really need to be at Macworld in San Francisco on Jan. 7. Just walking on the show floor surrounded by thousands of excited attendees produces a amazing. However, nothing compares to seeing Apple chairman Steve Jobs in person giving the keynote address.

When you are in the presence of these, the reality distortion field is so powerful that you start to have the strongest thoughts. Like how great the world will be when you make



Since you spent the summer at the beach, we'll

Of course, since the keynote is over, you realize you're not in the position the buy \$10,000 worth of Apple hardware and even if you could, what would you really do with it? But every Mac user deserves to spend those two hours in the presence of Steve.

Of course it won't be cheap to get there, so the boat Canada can range from \$300 to \$1,000 depending on when you get your tickets, and then there's the show ticket to consider.

The cheapest Esquire package that includes a ticket to the keynote, is the MacWorld/Users Conference package for \$13948.

However, if you want an all-around pass to the Express, you need the **Hannover Pass**, which will set you back US\$1,399.

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4 HANDS-ON

The mother of all components

Continued from page 31
and a value oriented processor.

Upgrading from one Athlon to another will be problematic; for only some upgrades of your existing Athlon board will work. If you're using an older Athlon fitted up with SDRAM, you will have to replace the motherboard and switch to DDR memory if you want to move up to the board's new faster Athlon processor.

The introduction of the Athlon XP draws a new wrench into the works. While 4 slot sets the 90-pin socket A, you can't just shove it into any mother-

board—you'll need one with a BIOS new enough to recognize the processor. That could mean buying a new motherboard that is compatible with the Athlon XP, or checking the site of your current motherboard manufacturer to see if a BIOS that is available to bring your old board up to speed.

Beneath the Athlon XP is still no zone; these aren't legacy motherboards suitable yet that can handle the new processor. For that reason, we've opted to take a look at boards that can handle the previous generation of the Athlon, with speeds of up

to 14 GHz.

Sonic's was based on a system costing us the 14-GHz Thunderbird model Athlon, with 256 MB of DDR PC1333 SDRAM from Crucial Technology (www.crucial.com).

The graphics card was a Creative Accelerator GoForce Ultra, and each board had its own onboard sound.

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- Support AthlonXP
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Continued on page 36



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Processor	AMD Athlon 1400MHz 1400MHz/1400MHz 1400MHz/1400MHz
Memory	128MB SDRAM 128MB SDRAM
Video	ATI 9000 ATI 9000
Sound	Siemens Sound Siemens Sound
Power	ATX 300W ATX 300W

Gold 2000
AMD Performance
509

Processor	AMD Athlon 1400MHz 1400MHz/1400MHz 1400MHz/1400MHz
Memory	128MB SDRAM 128MB SDRAM
Video	ATI 9000 ATI 9000
Sound	Siemens Sound Siemens Sound
Power	ATX 300W ATX 300W

Gold Advance
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829

Processor	AMD Athlon 1400MHz 1400MHz/1400MHz 1400MHz/1400MHz
Memory	128MB SDRAM 128MB SDRAM
Video	ATI 9000 ATI 9000
Sound	Siemens Sound Siemens Sound
Power	ATX 300W ATX 300W

Platinum 2000
Advance power
645

Processor	AMD Athlon 1400MHz 1400MHz/1400MHz 1400MHz/1400MHz
Memory	128MB SDRAM 128MB SDRAM
Video	ATI 9000 ATI 9000
Sound	Siemens Sound Siemens Sound
Power	ATX 300W ATX 300W

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Processor	AMD Athlon 1400MHz 1400MHz/1400MHz 1400MHz/1400MHz
Memory	128MB SDRAM 128MB SDRAM
Video	ATI 9000 ATI 9000
Sound	Siemens Sound Siemens Sound
Power	ATX 300W ATX 300W

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Processor	AMD Athlon 1400MHz 1400MHz/1400MHz 1400MHz/1400MHz
Memory	128MB SDRAM 128MB SDRAM
Video	ATI 9000 ATI 9000
Sound	Siemens Sound Siemens Sound
Power	ATX 300W ATX 300W

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Processor	AMD Athlon 1400MHz 1400MHz/1400MHz 1400MHz/1400MHz
Memory	128MB SDRAM 128MB SDRAM
Video	ATI 9000 ATI 9000
Sound	Siemens Sound Siemens Sound
Power	ATX 300W ATX 300W

Ultra Performance
AMD Series
2035

Processor	AMD Athlon 1400MHz 1400MHz/1400MHz 1400MHz/1400MHz
Memory	128MB SDRAM 128MB SDRAM
Video	ATI 9000 ATI 9000
Sound	Siemens Sound Siemens Sound
Power	ATX 300W ATX 300W

Ultra Performance
Intel Series
2315

Processor	Intel Pentium 4 1.7GHz 1.7GHz/1.7GHz 1.7GHz/1.7GHz
Memory	128MB SDRAM 128MB SDRAM
Video	ATI 9000 ATI 9000
Sound	Siemens Sound Siemens Sound
Power	ATX 300W ATX 300W

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Processor	AMD Athlon 1400MHz 1400MHz/1400MHz 1400MHz/1400MHz
Memory	128MB SDRAM 128MB SDRAM
Video	ATI 9000 ATI 9000
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Power	ATX 300W ATX 300W

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Processor	Intel Pentium 4 1.7GHz 1.7GHz/1.7GHz 1.7GHz/1.7GHz
Memory	128MB SDRAM 128MB SDRAM
Video	ATI 9000 ATI 9000
Sound	Siemens Sound Siemens Sound
Power	ATX 300W ATX 300W

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Processor	Intel Pentium 4 1.7GHz 1.7GHz/1.7GHz 1.7GHz/1.7GHz
Memory	128MB SDRAM 128MB SDRAM
Video	ATI 9000 ATI 9000
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MSI K7T4 Neo++, K7T4 Neo+++

MSI K7T4 Neo++, K7T4 Neo

TCP Test Lab: Pentium 4, Athlon motherboard survey

The mother of all components

Continued from page 54

- AMD Y4H chipset.
 - Only quad-vbus for DDR SDRAM.
 - Set P2 BIOS, see ACP tab.
 - ATA/IDE interface.
 - Twin USB ports.
 - Two serial ports, one parallel.
 - Gamma 2.2 vs 1.8 to front-side bus by default, and

Frequency must be changed by greater than 10%.

There aren't a lot of bells as the AX-700M board, no RAID, no Ethernet, no serial, and only two slots for DDR memory. What it does offer, however, is some of the best performance we've seen. It also comes with a full set PCI slots, more than any other boards we looked at this

- 10 -

The multiplier and voltage can be tweaked, if you so desire. The jumping of the front side bus speed to 200MHz is pre-configured for Duron, so make sure to do that jumper setting up first before you install your CPU if you're planning to use the Athlon, then switch off to the Duron.

Gravity GA-1500

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The mother of all components

Continued from page 58



- Full PCI slots, one AGP Pro slot, one ABR (Audio Modem) slot
- Dual IDE slots
- Four USB ports: plus two VIA8200 IDE ports
- Two USB ports onboard; bracket to be mounted
- Two serial ports—one parallel
- Onboard AC97 audio (Creative CT486), on/off projector
- Dispatches for enabling extensive board and molecular settings

Gigabyte's GA-720XLE is based on the previously released GA-720X motherboard, but the new has two obvious differences: it's blue, and it features two RAID sockets for adding extra hard drives to your system.

Look a bit closer and you notice a few

more improvements, like an additional slot for DDRII DRAM and the upgrade of the AGP slot to AGP Pro. As with other Gigabyte boards, the GA-720XLE comes with the Dual BIOS setup, which means if one BIOS fails, you can boot via the other one instead of having to reflash the board. The performance is right up there, too.

The software bundle is also nice, including Norton AntiVirus and Personal Firewall. The EasyTune II software allows you to tweak your system settings by fractions of megahertz, if power saving is the urge to overclock.

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- Standard and local loops with special feature including SPIR and integrated SPIR/Wavelet
- One project
- Contains the optional sound card reader
- Overclocking friendly BIOS allows you to adjust the bus speed in 1 MHz increments

The name of this motherboard, DRAG ONE, is an acronym for the unusual components. It has DDR RAM for RAID, 8 MB for audio, G for AGP, D for overclocking, and N for network—ON, so they figured a lot on the G.

The colors on the board have also been given a special spin, with purple PCI slots and bright yellow RAID sockets. One small complaint: the ATA and RAID sockets have open sides, and it's fairly easy to snag the pins if you're not paying close attention when plugging everything in.

Although many of the boards with audio onboard include SPDIF functionality, the Dragon extends the board's Digital I/O surround sound capabilities with a

dedicated audio breakout featuring optical inputs and outputs, too.

The board comes with a good software bundle that includes Norton AntiVirus and Ghost, Adobe Photoshop and Acrobat Reader, and IntraVideo's WinDVD player. All in all, it adds up to a very nice package that will cost you a little more.

Intel Pentium 4

Mention the word "processor," and Intel's Pentium line is the first thing that comes to most people's lips. Pentium has had a good run since it was introduced in 1993.

Since that point, a number of different versions have been spun off, including the Pentium II and Pentium III chips (classic descendants), but also modified versions like the Celeron (a budget-oriented chip) and the Xeon (a performance-oriented chip).

The Pentium 4, introduced in 2000, is the newest processor aimed at the consumer desktop. While it's still being marketed towards the business segment, the Pentium 4's specialty is Internet and multimedia, making it a perfect choice for anyone interested in high-performance gaming, video, or a multimedia-rich online experience.

The number one flag: Scoring the
Continued on page 60



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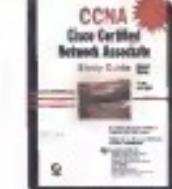


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So this is what the battle is about. Intel has been threatening lawsuits against VIA, the maker of the chipset that allows Intel's Pentium 4 processor to be teamed up with DDR SDRAM, as well as manufacturers who use the chipset on their motherboards.

Absolute asset tracking service (44488)



San Francisco-based Absolute Software (www.absolutec.com) has launched a secure asset tracking and inventory management service called AbsoluteTrack.

The service uses Absolute's CompuTrace platform, and is targeted at small-to-medium sized businesses that need to track their mobile, mobile, and desktop PC assets, as well as manage inventory daily. For larger companies that have an asset management system, AbsoluteTrack provides an inventory module that can track remote and mobile computers.

According to the company, AbsoluteTrack helps IT staff manage software licenses, computer leases, machine configurations, PC refreshment, hardware and software upgrades, and device ownership. The service alerts administrators of events—when a system's lease is due or components have been added to it, for example.

In addition, Absolute says, the new service can help prevent computer loss and monitor security policy violations.

The CompuTrace platform used in the service is comprised of software installed on PC hard drives that sends notifications to the Absolute monitoring centre when the computer is online. The user is not aware that the PC's IP address, phone number, and other data points are being transferred. This allows administrators to collect asset data and consumers to block stolen hardware.

—RIP Dugdell

Officially, Intel takes issue with the board because it feels Via's chipset violates its own patents. The other thing Intel may be worried about is the performance of the chipset when paired up with the Pentium 4 and DDR SDRAM. Quite frankly, it violates the rule of the competit-

ition in Sempron 2000—this Shuttle board posted a 12-point lead on the next-high test configuration at this month's test.

To add to the joy, the board also comes with two RAID connectors and sports no fewer than four additional USB ports (four more included). It might have been slow to

see CDR or Ethernet onboard, but in the end, the i945K is geared up to provide excellent performance and a lot of room to expand your storage.

If you're interested, you might want to act quickly. If Intel follows its muscles, the board may not be available for long. Q

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Negotiating the perils of upgrading

By Sean Corcoran

To hear the optimists talk, upgrading is the easiest thing in the world, but those who have actually cracked open the case and tried to replace a component have often found an obstacle course awaiting them. This is especially true with motherboards, for a number of

1. Different processors often require different sockets. An Intel processor will use a different socket than an AMD processor. A high-end processor may use a different socket than a value-oriented processor. To make things even more confusing, the same processor may change sockets during its lifetime for other reasons, like a newer form factor, or an upgraded design. In short, modern motherboards see about seven processor specific, which means you have to pay extra-close attention when you're selecting one to go with a

3. Different motherboards have different chipsets. Each motherboard uses a "chipset" to allow all of the components—CPU, memory, PCI slots, type and required memory are the easiest to install. Once you have everything in place, it's important to make sure you have everything in place before the upgrade, in terms of the other components.

If you just want to upgrade the processor, make absolutely sure the socket is the same; otherwise you will need to replace the motherboard too. And if you have to replace the motherboard, you may end up having to replace the memory, depending

on which chapter your motherboard has.

Cool and power supply

You also have to be very careful about the compatibility of your motherboard

Continued on page 68

Cost and power supply

You'll also have to be very careful about the compatibility of your motherboard

Continued on page 68

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ON THE EDGE: COMING-SOON PRODUCTS

Negotiating the perils of upgrading*Continued from page 66*

with your PC case and/or power supply. Previous 4-boards use a lot fewer jumpers and require at least two separate connectors from the power supply, and sometimes three. One of those is the same plug that has been used on ATX-style boards

for a while, and the second is a small four-pin connector known as ATX 12V, which is 12-volt power.

On particularly hungry systems, there's a third connector, known as ATX 3.3v, which resembles half of one of the three power plugs used on older AT motherboards. If you already have all three con-

nectors dangling from your power supply, you should be safe with a Pentium 4 board. If not, you may have to swap the power supply, though it's almost as cheap just to get a new case.

Another issue with the cases is the way the motherboard connects to the buttons and LED lights. Most cases come with a

series of smaller individually跳接 wires, which requires a really steady hand to connect and a fair amount of patience. Other boards demand directly at the Pentium 4母板, which may come with an entire stack of jumpers designed for board跳接. If your case comes with the individual jumpers, you should be able to hook them up to the motherboard without incident. If not, you may have to do a bit of soldering.

The last thing about cases although many new ones come with the mounting holes for the screws molded right into the case (there will be bungs on the back plate), some will still require you to mount little metal standoff mounts onto the plate. Not every motherboard has the mounting holes in exactly the same place, so make absolutely sure your standoffs are in the right location before you try installing the new board, or you could do some damage if an old standoff is in the wrong place, or if you accidentally flip the board in a location that has no mounting support.

Drives

The long and short of it: make sure you have them ready.

Upgrading your motherboard is also a very tricky proposition for another reason: the drivers that a motherboard needs to function are at the very heart of your operating system. Take your motherboard out and replace it with a strange new board and your system will likely do some very strange things and a bunch of your hardware will probably stop working.

The most notable item that will become useless following a motherboard transfer is your CD-ROM drive, which is especially problematic, because most of the drivers you'll need to make your new motherboard work are, you guessed it, on a CD-ROM included with the motherboard.

Your best bet is to copy all relevant files over to your hard drive before you swap the motherboard out, including making a copy of your entire Windows installation CD. That way, if you can access the hard drive, you'll be able to access all the files you need.

In the worst-case scenario, your system configuration won't get along with your new motherboard at all, requiring you to reinstall your operating system. Make sure you back up all of your important files before you attempt to swap a motherboard, just in case you have to reformat your hard drive.

Special note to people reading this because their motherboard died before they could prepare their system for a motherboard swap: if you have the money, you may want to take the opportunity to buy a new hard drive at the same time—it'll be a lot easier than trying to do an old Windows installation, and you'll be able to swap your old hard drive to the system to retrieve your important data. (Plus, you'll probably end up with a much bigger hard drive to boot.) □

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Banking on small operators

As small business portals expand financial, legal, purchasing, and information offerings, Canadian entrepreneurs have fewer reasons to leave their desks

By Tom Venuto

The Internet has changed the way many businesses interact with customers. One familiar example is Federal Express and the transformation that has occurred with parcel tracking—from placing an order at a customer service to going online and tracking the package yourself.

But it doesn't stop there. Many small business owners are now turning to the Internet to get a range of services and information they need to run their businesses day to day.

The banking, for example. Small business owners have been putting pressure on Canadian banks to come up with new—often Internet-based—ways of providing financial services.

"Small business have always looked at banks with a bit of a disgruntled view for many years," says Robert Peterson, president and CEO of the Toronto-based butSmart (www.butsmart.ca). "butSmart is the first attempt to come up with innovative changes in banking for small business people."

At its core, butSmart is a no-fee daily banking service developed by the Canadian Imperial Bank of Commerce (CIBC) and Stephen Business Depot. It offers Canadian small-business owners



services that do away with deposit and withdrawal fees, account and membership fees, as well as fees for lines of credit that butSmart claims to be lower than just an online banking service.

(Continued on page 21)

Reluctant travellers turn to Net

BRIDGEVILLE, Mass.—After the Persian Gulf War rolled in 1991, there was a decline in business travel and a short-lived surge in the use of video to board cast meetings. The Sept. 11 terrorist attacks in the U.S. involving hijacked airplanes have sparked renewed interest in using pictures to replace travel, and one expert predicts that trend is here to stay.

Andy Nilsson, senior analyst and partner with Winshare Research Group, believes a form that specializes in multimedia communications, videoconferencing, and streaming media, will be become the choice to video over the Internet will have staying power for the two decades.

"First, the Gulf War set in the Persian Gulf but what happened [Sept. 11] was an accident," said Nilsson. "Second, the technology has gotten dramatically better in the last 10 years, and will be more attractive to businesses and corporations."

Since the attacks, at least one Fortune 500 company has reported that interest in its videoconferencing system has jumped, he said. "They heard from many videoconferencing service providers that our business is up," he added.

According to Nilsson, the three most

(Continued on page 21)

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Banking on small operators*Continued from page 70*

It also acts as a small business portal, giving access to a wide range of information and services targeting small business operators.

"Many [small businesses] have told us that they were looking for [information] that can educate them on how to run a business, what makes an managerial service, how to hire people, how to do telemarketing or even how to prepare a business plan," Patterson says.

By going to Business Knowledge Centre sections, users can tap into a library of articles and information compiled by experts, interactive presentations, online tutorials and templates.

There is also direct access to e-mock (which steps users through the process of incorporation), Equifax Canada Inc. (for assessing commercial credit information), and Intuit's QuickBooks software.

"A small business can query their information any time of the day along with the interactive component such as the ability to download a PowerPoint presentation," Patterson adds. "On the other side, we have several buying services. That is where we offer discounts on services with Dell Computers, Printex, and Intuit. So a small business can get 10 percent off of a Dell's computer service when they use business or get discounts on a Dell computer or Intuit's QuickBooks."

"When we asked where they would like to sign up for banking services, they said not at a bank."

Business also has a brick-and-mortar component. Walk into selected Staples and Business Depot stores in British Columbia, Saskatchewan, Alberta, Manitoba and Ontario and you'll find a *small business centre* (businesses are listed online).

"When we asked where they would like to sign up for banking services, they said not at a bank," says Patterson. "Banks are typically where there is no parking and the hours are poor. What they told us was that the place they enjoyed the shopping experience was at Staples. So at Staples we are creating a one-stop shopping environment where they can get their supplies and do their banking. We will talk to our network of business leaders and they can come in and talk to people about any questions they have."

Another concern business owners may have regarding Internet banking is bill delivery and payment. Recently, Canada Post launched *postpay.ca*, a free ser-

vice that lets companies send bills to customers electronically. A business wanting to receive payment electronically can select this option from a list of businesses that offer the service, including Attila Sound, Canada Post, Canadian Tire, Petro-Canada, Columbia House, Conoco, Holt Renfrew,

Horne Hardware, Media Auto Experts, PEI Tax Service, Petro-Canada Zellers, and some independent or regional utility companies. A fee is available at the [postpay.ca](http://www.postpay.ca) Web site.

Once a bill is received, payment can be made by credit card, electronic funds

transfer, or through an Internet bank service used by the business. Postpay uses a reference number that acts as proof of payment. Payment history can also be tracked.

Recently, the *postpay.ca* service was added to

Continued on page 72

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Banking on small operators

Continued from page 11

MSN is in part of its online Money service. This means the search 2.5 million visitors MSN says come to its site annually could not expect to pay their bills.

Also new to MSN.ca is Microsoft's bCentral (www.bcentral.ca) service, which delivers applications, services, and customizable information to small business customers.

"bCentral has become part of the best new channel for MSN.ca," says Jason Sharman, marketing manager for bCentral with Microsoft Canada Co. in Mississauga, Ont. "So we have valuable content for small business, including specific areas like finance, accounting, and purchasing. We also can forward [queries] to an expert panel whose mandate is to help out small businesses with any questions."

The panel provides advice on a range of small business topics, such as starting an online business, financing and accounting questions, marketing and sales advice,

and technology. Providing expert advice through bCentral allows Microsoft to build relationships with small business customers, says Sharman.

"It also keeps us in sync with what small business want and need. You tend to get caught up with your application development and that helps us keep in touch with what our customers are."

bCentral's expert panel is moderated by Canadian cast, an online portal based in Stratford, Ont., that has been providing information to small businesses in Canada since 1997.

"I had been using the Internet quite extensively and I was finding a lot of interesting U.S. content, but there seemed to be very little Canadian content," says John King, Canadiancast co-founder. "And there is a big difference between small, U.S.-based businesses and Canadian small businesses."

Information available on Canadiancast includes tips and how-to on running a small business, getting a GST number, creating and running a

marketing program, building a customer base, and accounting. Currently, Canadiancast.com has more than 200 articles written by a variety of small business contributors.

"What really sets us apart is that we are a small business ourselves and we like to think we have our finger on the pulse of the small business community," King adds. "That has allowed us to create real and valid information that is relevant. A small business owner does not have the resources or the internal staff of, let's say, a large corporation to assign the time needed to research. So just being able to tap into a resource to have questions answered quickly is very useful to them."

Toronto-based Newbusinesscanada (www.newbusinesscanada.com) focuses on helping small business entrepreneurs to succeed with both federal and provincial laws. Eric Cohen, its lawyer and president of the online service, offers information and access to experienced legal experts across Canada, who can answer provider-specific questions via e-mail.

Through Newbusinesscanada, Cohen often legal services whereby we package certain things for something like an incorporation form start to finish, dealing with those customers in a law firm," but he also offers a second tier of services for people who want to do it themselves. "We will help them by answering the questions they have free of charge."

Given any getting legal advice from the Internet is appealing for many small businesses because it simplifies access and lessens the intimidation a small business owner can feel by going to a lawyer.

And like the other small business portals, Newbusinesscanada offers addi-

tional services, such as purchasing corporate supplies, trademark searching, and consumer legal issues for those thinking of doing business online.

Vancouver, BC-based Microlead Software and Design Ltd (www.microlead.com) promises to help entrepreneurs going the e-commerce route stand out on search engines.

Microlead chief executive, Richard Zwodyk, says he became interested in search engine marketing and placement after seeing it do it when he launched his own online business.

Zwodyk says he found he was spending up to 25 hours a month going through his client logs to see what search engines were being used, to track his site, the placement of site in queries on various search engines, and developing ways to improve the chances his site would appear at the top.

In May 2000, he launched Microlead.com, which estimates the search engine marketing and placement program is available for \$15 per month and does not require specialized software.

"It is a real time saver and it provides you with useful information about your site and how [the search engines] are using it," Zwodyk says. "We provide statistics, ranging from a basic summary report that tells you how many visitors you had in a month, what they looked at, and you can also see which search engines and backbone providers they are coming from."

Zwodyk says the position of a small business on a search engine is just as important as its position in a books and mortar mall. "If you are not able to be found, you are not going to have any traffic or sales."

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1014	CD-RW Drive	1014 48X CD-RW	1014 48X CD-RW	1	1	\$239.99	\$239.99	\$239.99	\$239.99
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1016	CD-RW Drive	1016 56X CD-RW	1016 56X CD-RW	1	1	\$259.99	\$259.99	\$259.99	\$259.99
1017	CD-RW Drive	1017 60X CD-RW	1017 60X CD-RW	1	1	\$269.99	\$269.99	\$269.99	\$269.99
1018	CD-RW Drive	1018 64X CD-RW	1018 64X CD-RW	1	1	\$279.99	\$279.99	\$279.99	\$279.99
1019	CD-RW Drive	1019 68X CD-RW	1019 68X CD-RW	1	1	\$289.99	\$289.99	\$289.99	\$289.99
1020	CD-RW Drive	1020 72X CD-RW	1020 72X CD-RW	1	1	\$299.99	\$299.99	\$299.99	\$299.99
1021	CD-RW Drive	1021 76X CD-RW	1021 76X CD-RW	1	1	\$309.99	\$309.99	\$309.99	\$309.99
1022	CD-RW Drive	1022 80X CD-RW	1022 80X CD-RW	1	1	\$319.99	\$319.99	\$319.99	\$319.99
1023	CD-RW Drive	1023 84X CD-RW	1023 84X CD-RW	1	1	\$329.99	\$329.99	\$329.99	\$329.99
1024	CD-RW Drive	1024 88X CD-RW	1024 88X CD-RW	1	1	\$339.99	\$339.99	\$339.99	\$339.99
1025	CD-RW Drive	1025 92X CD-RW	1025 92X CD-RW	1	1	\$349.99	\$349.99	\$349.99	\$349.99
1026	CD-RW Drive	1026 96X CD-RW	1026 96X CD-RW	1	1	\$359.99	\$359.99	\$359.99	\$359.99
1027	CD-RW Drive	1027 100X CD-RW	1027 100X CD-RW	1	1	\$369.99	\$369.99	\$369.99	\$369.99
1028	CD-RW Drive	1028 104X CD-RW	1028 104X CD-RW	1	1	\$379.99	\$379.99	\$379.99	\$379.99
1029	CD-RW Drive	1029 108X CD-RW	1029 108X CD-RW	1	1	\$389.99	\$389.99	\$389.99	\$389.99
1030	CD-RW Drive	1030 112X CD-RW	1030 112X CD-RW	1	1	\$399.99	\$399.99	\$399.99	\$399.99
1031	CD-RW Drive	1031 116X CD-RW	1031 116X CD-RW	1	1	\$409.99	\$409.99	\$409.99	\$409.99
1032	CD-RW Drive	1032 120X CD-RW	1032 120X CD-RW	1	1	\$419.99	\$419.99	\$419.99	\$419.99
1033	CD-RW Drive	1033 124X CD-RW	1033 124X CD-RW	1	1	\$429.99	\$429.99	\$429.99	\$429.99
1034	CD-RW Drive	1034 128X CD-RW	1034 128X CD-RW	1	1	\$439.99	\$439.99	\$439.99	\$439.99
1035	CD-RW Drive	1035 132X CD-RW	1035 132X CD-RW	1	1	\$449.99	\$449.99	\$449.99	\$449.99
1036	CD-RW Drive	1036 136X CD-RW	1036 136X CD-RW	1	1	\$459.99	\$459.99	\$459.99	\$459.99
1037	CD-RW Drive	1037 140X CD-RW	1037 140X CD-RW	1	1	\$469.99	\$469.99	\$469.99	\$469.99
1038	CD-RW Drive	1038 144X CD-RW	1038 144X CD-RW	1	1	\$479.99	\$479.99	\$479.99	\$479.99
1039	CD-RW Drive	1039 148X CD-RW	1039 148X CD-RW	1	1	\$489.99	\$489.99	\$489.99	\$489.99
1040	CD-RW Drive	1040 152X CD-RW	1040 152X CD-RW	1	1	\$499.99	\$499.99	\$499.99	\$499.99
1041	CD-RW Drive	1041 156X CD-RW	1041 156X CD-RW	1	1	\$509.99	\$509.99	\$509.99	\$509.99
1042	CD-RW Drive	1042 160X CD-RW	1042 160X CD-RW	1	1	\$519.99	\$519.99	\$519.99	\$519.99
1043	CD-RW Drive	1043 164X CD-RW	1043 164X CD-RW	1	1	\$529.99	\$529.99	\$529.99	\$529.99
1044	CD-RW Drive	1044 168X CD-RW	1044 168X CD-RW	1	1	\$539.99	\$539.99	\$539.99	\$539.99
1045	CD-RW Drive	1045 172X CD-RW	1045 172X CD-RW	1	1	\$549.99	\$549.99	\$549.99	\$549.99
1046	CD-RW Drive	1046 176X CD-RW	1046 176X CD-RW	1	1	\$559.99	\$559.99	\$559.99	\$559.99
1047	CD-RW Drive	1047 180X CD-RW	1047 180X CD-RW	1	1	\$569.99	\$569.99	\$569.99	\$569.99
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1050	CD-RW Drive	1050 192X CD-RW	1050 192X CD-RW	1	1	\$599.99	\$599.99	\$599.99	\$599.99
1051	CD-RW Drive	1051 196X CD-RW	1051 196X CD-RW	1	1	\$609.99	\$609.99	\$609.99	\$609.99
1052	CD-RW Drive	1052 200X CD-RW	1052 200X CD-RW	1	1	\$619.99	\$619.99	\$619.99	\$619.99
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1056	CD-RW Drive	1056 216X CD-RW	1056 216X CD-RW	1	1	\$659.99	\$659.99	\$659.99	\$659.99
1057	CD-RW Drive	1057 220X CD-RW	1057 220X CD-RW	1	1	\$669.99	\$669.99	\$669.99	\$669.99
1058	CD-RW Drive	1058 224X CD-RW	1058 224X CD-RW	1	1	\$679.99	\$679.99	\$679.99	\$679.99
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1063	CD-RW Drive	1063 244X CD-RW	1063 244X CD-RW	1	1	\$729.99	\$729.99	\$729.99	\$729.99
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1065	CD-RW Drive	1065 252X CD-RW	1065 252X CD-RW	1	1	\$749.99	\$749.99	\$749.99	\$749.99
1066	CD-RW Drive	1066 256X CD-RW	1066 256X CD-RW	1	1	\$759.99	\$759.99	\$759.99	\$759.99
1067	CD-RW Drive	1067 260X CD-RW	1067 260X CD-RW	1	1	\$769.99	\$769.99	\$769.99	\$769.99
1068	CD-RW Drive	1068 264X CD-RW	1068 264X CD-RW	1	1	\$779.99	\$779.99	\$779.99	\$779.99
1069	CD-RW Drive	1069 268X CD-RW	1069 268X CD-RW	1	1	\$789.99	\$789.99	\$789.99	\$789.99
1070	CD-RW Drive	1070 272X CD-RW	1070 272X CD-RW	1	1	\$799.99	\$799.99	\$799.99	\$799.99
1071	CD-RW Drive	1071 276X CD-RW	1071 276X CD-RW	1	1	\$809.99	\$809.99	\$809.99	\$809.99
1072	CD-RW Drive	1072 280X CD-RW	1072 280X CD-RW	1	1	\$819.99	\$819.99	\$819.99	\$819.99
1073	CD-RW Drive	1073 284X CD-RW	1073 284X CD-RW	1	1	\$829.99	\$829.99	\$829.99	\$829.99
1074	CD-RW Drive	1074 288X CD-RW	1074 288X CD-RW	1	1	\$839.99	\$839.99	\$839.99	\$839.99
1075	CD-RW Drive	1075 292X CD-RW	1075 292X CD-RW	1	1	\$849.99	\$849.99	\$849.99	\$849.99
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1079	CD-RW Drive	1079 308X CD-RW	1079 308X CD-RW	1	1	\$889.99	\$889.99	\$889.99	\$889.99
1080	CD-RW Drive	1080 312X CD-RW	1080 312X CD-RW	1	1	\$899.99	\$899.99	\$899.99	\$899.99
1081	CD-RW Drive	1081 316X CD-RW	1081 316X CD-RW	1	1	\$909.99	\$909.99	\$909.99	\$909.99
1082	CD-RW Drive	1082 320X CD-RW	1082 320X CD-RW	1	1	\$919.99	\$919.99	\$919.99	\$919.99
1083	CD-RW Drive	1083 324X CD-RW	1083 324X CD-RW	1	1	\$929.99	\$929.99	\$929.99	\$929.99
1084	CD-RW Drive	1084 328X CD-RW	1084 328X CD-RW	1	1	\$939.99	\$939.99	\$939.99	\$939.99
1085	CD-RW Drive	1085 332X CD-RW	1085 332X CD-RW	1	1	\$949.99	\$949.99	\$949.99	\$949.99
1086	CD-RW Drive	1086 336X CD-RW	1086 336X CD-RW	1	1	\$959.99	\$959.99	\$959.99	\$959.99
1087	CD-RW Drive	1087 340X CD-RW	1087 340X CD-RW	1	1	\$969.99	\$969.99	\$969.99	\$969.99
1088	CD-RW Drive	1088 344X CD-RW	1088 344X CD-RW	1	1	\$979.99	\$979.99	\$979.99	\$979.99
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Continued from page 29

popular methods of transmitting video, audio, and sometimes data are Webcasting, Webconferencing, and videoconferencing. The differences between the three are subtle.

Webcasting can include audio, video, and data. Because it has about a 20- to 30-second delay, it is used for one-way communication, not conversations. Many corporations use Webcasting to get corporate, internal information to a specialized audience.

Webconferencing consists of an audio Web plus a Web site where people can see a presentation, listen to PowerPoint-type slides. Webconferencing has two-way communication capability. Videoconferencing is audio, video, and data, all with two-way communication. It requires specialized equipment to be set up at each location participating in a videoconference.

Even before the terrorist attack, use of all three of these types of services had been growing consistently in price, fill and more companies found uses for them, said Nilsen. He recalled that the Web streaming market rose rapidly a few years ago, losing some to predict it would be the new television.

"A lot of people got burned with the buzz of the dot-com bubble, but it is coming back now," he said. "People are using it to get out specialized information."

A major offshoot of Webconferencing is a savings cells, where corporations can have their quarterly dozen or more for investors, analysts, and media, he said.

Nilsen said video over the Internet will replace travel in a lot of circumstances, but not all.

"Team meetings, partner meetings, meetings with suppliers, and customer support all are examples of things that can be done by video."

"There are still those places where you need to go shake somebody's hand, but there are a lot of times you do not have to be there in person," he said. "From meetings, partner meetings, meetings with suppliers, and customer support, all are examples of things that can be done by video if you are the corporate attorney to a Fortune 500 client, give them Webconferencing capability and you can stay in touch all the time."

According to a Yahoo spokesperson, Internet broadcasting had already been drawing increasing interest in July and August from large companies, as well as from convention and meeting planners who saw their travel budgets drying up.

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Out of box, for some reason Adobe considers a getting started manual under normal circumstances to be bad, because it takes away from otherwise solid documentation, references and other information. Summary: PageMaker is a solid, full-featured desktop publishing solution suited to the business professional. It's an mid-range publishing solution ideal for users who need reliable tools of use, functionality and widespread commercial partner support.

Overall rating: F+/\$5.

By Jacques Sommerville
and Melinda McCullough

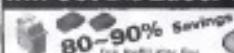
Once upon a time, PageMaker ruled the desktop publishing (DTP) landscape. Now, that crown belongs to Quark XPress, especially within professional publishing environments, such as newspapers, 3D Adobe InDesign, and not PageMaker, that operates directly with Quark at that space.

The low end of the DTP market has been populated by products like Microsoft Publisher, which get more and more powerful and easier to use. PageMaker is also facing competition from illustration programs, like CorelDraw, that have more page layout features with each version.

So, where does PageMaker fit into the DTP industry? It helped define it! If you're not a design professional, but if you're not a carpenter, no one else, you need professional, or leading documents that can be printed locally, commercially, or exported as PDFs. You want and need colour. Today

(Continued on page 76)

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HP 13400	13400	\$10.00	\$2.00
HP 13500	13500	\$10.00	\$2.00
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HP 13800	13800	\$10.00	\$2.00
HP 13900	13900	\$10.00	\$2.00
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HP 14200	14200	\$10.00	\$2.00
HP 14300	14300	\$10.00	\$2.00
HP 14400	14400	\$10.00	\$2.00
HP 14500	14500	\$10.00	\$2.00
HP 14600	14600	\$10.00	\$2.00
HP 14700	14700	\$10.00	\$2.00
HP 14800	14800	\$10.00	\$2.00
HP 14900	14900	\$10.00	\$2.00
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HP 16900	16900	\$10.00	\$2.00
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HP 17900	17900	\$10.00	\$2.00
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HP 18700	18700	\$10.00	\$2.00
HP 18800	18800	\$10.00	\$2.00
HP 18900	18900	\$10.00	\$2.00
HP 19000	19000	\$10.00	\$2.00
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HP 19900	19900	\$10.00	\$2.00
HP 20000	20000	\$10.00	\$2.00
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HP 20700	20700	\$10.00	\$2.00
HP 20800	20800	\$10.00	\$2.00
HP 20900	20900	\$10.00	\$2.00
HP 21000	21000	\$10.00	\$2.00
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HP 21900	21900	\$10.00	\$2.00
HP 22000	22000	\$10.00	\$2.00
HP 22100	22100	\$10.00	\$2.00
HP 22200	22200	\$10.00	\$2.00
HP 22300	22300	\$10.00	\$2.00
HP 22400	22400	\$10.00	\$2.00
HP 22500	22500	\$10.00	\$2.00
HP 22600	22600	\$10.00	\$2.00
HP 22700	22700	\$10.00	\$2.00
HP 22800	22800	\$10.00	\$2.00
HP 22900	22900	\$10.00	\$2.00
HP 23000	23000	\$10.00	\$2.00
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HP 25100	25100	\$10.00	\$2.00
HP 25200	25200	\$10.00	\$2.00
HP 25300	25300	\$10.00	\$2.00
HP 25400	25400	\$10.00</td	

Adobe means business

Continued from page 75
and stability across your publications.

You want a wide range of professional templates that you can extend and modify for a corporate look and feel. Finally, you want a tool that, unlike Microsoft

Word, will not result in graphics and effects littering all over the page when you make changes, or flattening "surfaces" when printed out. Your solution: PageMaker 7.0.

If you already own PageMaker, the upgrade to 7.0 is no brainer; that what

about the new user? With a list price of \$499, PageMaker 7.0 is significantly more expensive than Microsoft Publisher, at \$179.

But friends, do not be swayed by price. PageMaker and Publisher are not in the same track bracket. Publisher is an easy-

to-use, template-driven enter into desk top design. But PageMaker is a powerful, fully featured, DTP solution with room for growth along with its user.

Publisher has its place—as a simple poster house or small business solution. See you could consider Publisher fine to the service bureau using its Print and Go utility.

But your results will be spotty and your trade-quarters high when you send along Publisher files filled with RGB colors, transparency, and WMF graphics.

CorelDraw is a closer competitor to PageMaker in a mid-range solution, but as an all-in-one print, illustration, and layout tool, CorelDraw's graphic suite is really a different animal altogether. Good, if you need all those and don't currently use Photoshop or Illustrator, but too broadly based for DTP alone.

So, now that we have analyzed PageMaker's location in the DTP landscape, let's take a closer look and see where it stands and where it lacks some kudos.

Templates

long says:

On storage, PageMaker 7.0 offers a nifty template dialogue that allows users to select from a set of 20 design categories, such as site, brochure, direct mail, and newsletters. The template previews are



quite small and the numeric file naming convention, however, may impede selection and identification.

There is some logic to the numeric file naming, however; the leading digit refers to the difficulty level—first zero, for easy black and white templates; in three, for advanced, full-color commercial press templates.

However, descriptive file names would easily improve the selection process.

Generally, you have to double click and open a copy of the template as a new file in PageMaker to get a better "look-and-feel." It isn't what you need; you have to close out of the publication, go to the Windows Menu, and restart the templates through the Page M. / Preferences sub menu. It is a clumsy process at best.

However, the templates are excellent—elegant, professional, and far above those provided in Publisher.

They demonstrate that PageMaker is clearly targeting a business base. The ap-



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plane descriptions within the file as a useful tool and could even be beefed up a little further with more detailed production notes.

Burton has PageMaster templates as good. Adding more, along with new descriptive file names, would make PageMaster even better.

Results from network

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In addition to the application CDs, PageMaker 7.0 comes with a disc that includes 4,730 stock illustrations in Illustrator and JPEG formats, 300 high-resolution photographs, and 775 Adobe



Type it down. To look at the artwork, you can pull up the picture palette with or without the content CD in the drive.

Most photographs are about 3x3 in. at 300 dpi. They can't really be enlarged beyond about 8x10 for use in print, but overall content and variety is very good.

PageMaker's picture palette makes searching a coach image can then be dragged and dropped directly from the

please see the sidebar.

You can customize the painter palette by creating your own crayons and adding your own artwork. Again, like templates, incorporating more artwork would be even better.

Data sources

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PageMaker 7.0's data merge plugin is an easy-to-use and welcome addition. It allows users to merge data into a PageMaker publication, personalizing content for targeted communications.

It is a snap to use your customer-deleted data. You select it as a data source in the data merge palette with your target document open, then place the fields in your publication by simply placing your text cursor in the appropriate spot and double-clicking on the **Data** field in the data merge palette and, voilà!

You can step through and process each record within the document, then merge all or just a single records. Any data manipulation must be done beforehand to the source data itself, but a user could be converting or rebuilding a third-party product for usage with FileNet.

Sources of multivitamin variability

Page 43

In addition to adding more templates and graphics, Asciidoctor could do more to make FugakuMaker the indispensable on-the-go

Conclusions and Summary



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"The whole PC industry has come together around this launch," Gates told his assembled audience. "Windows XP is the most powerful, fastest, most reliable operating system we have ever done. We've packed literally billions of dollars of development into this product."

opment into that new province that was based on the Indian block we had from our users, based on a vision of how we could do that that the PCP can't be enabled," said Gates.

"The new security is very important. The privacy control is important. The message for real-time users is clear – it's a foundation. The new personal digital experiences. Really we'll look back and say at the moment some these are the ways that people did their interaction."

The company says XP will give both consumers and businesses more reliability than Windows 2000. It is touted as being 50 percent faster running business applications and up to 77 percent faster managing content creation.

It is also supposed to be faster than Windows XP SP2 when booting up and up to 15 percent faster when loading applications. It also features an improved Windows Media Player, digital photo tools, a Compatibility Mode that allows users to run older programs on Windows XP, ClearType for improved text rendering on LCD monitors, and nearly 12,000 Applebee drivers.

As well, Microsoft has added a variety of other features that are part of its long-term, Net strategy that was announced 18 months ago.

At the Toronto launch, Macmillan-Canada announced that XP users will be able to easily access Future Shop's online photo printing service. Future Photo

Photo printing software, [www.foto.com](#)
—Heather MacIntosh, senior manager of
Foto.com Photo, said Print Shop has been
working with Microsoft to develop making
the service as seamless as possible for Windows
users. In XP users go to the file that contains
in their images and select Order Prints
Online from the menu.

"When they click on that—the Future Photo offer comes up. Then it is a simple matter of clicking through a wizard and picking an order," Michael says.

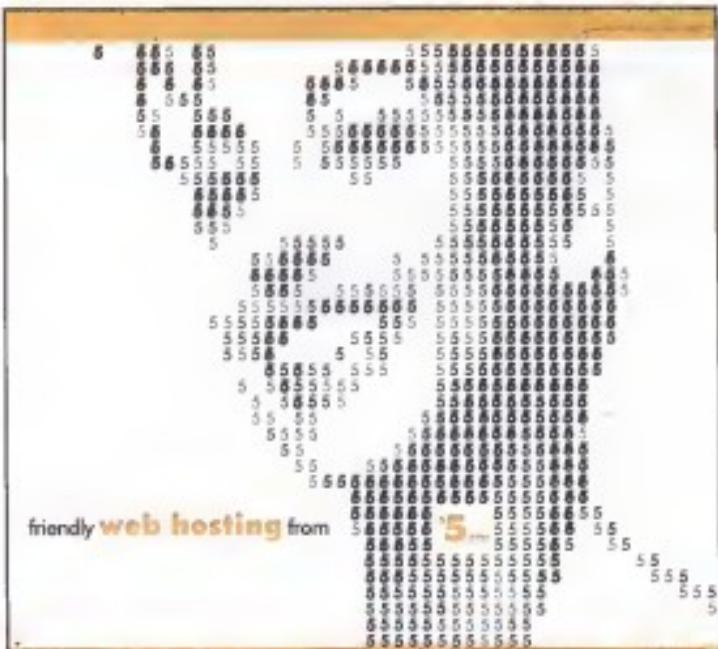
The system notifies users if the picture resolution is too low for the size of print they've selected, allowing them to fix it

before reducing the order.

Erik Mail, Microsoft Canada's Windows XP product manager, said new computers will begin delivering Web-based services to XP users in the very near future.

"The long-term goal for Microsoft is to

move to software as a service," Moll said. "You will be able to buy the software as a full package, but over time you will be able to get onto the Internet and get them. And we are also going to be providing other services like advertising and content." □



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'Tis the low-end disk season

Continued from page 80

that when you select an item it is launched. Previously this just opened the icon's folder, so you had to click twice. Now the icon has speeded up, taking only 10 or 15 seconds, and you don't see the desktop elements loading. Rather, you get a progress bar until when it's done, everything appears ready to go.



- Menus seem to drop down faster and are generally more responsive
- Most applications open in one or two seconds, a vast improvement over 10-12
- The DVD Player application is very

high quality, and much more responsive than the OS 9 version.

• Garage view works better. You can now move columns and folders are marked with a triangle to indicate they will flip in the next move.

• Scrubbing wheels work everywhere in the folder view? This was a big pet peeve with 10.0.4.

• Controls that used to take up desk space—such as monitor resolution, sound volume, battery level and AirPort—now sit at the menu bar next to the clock, which clears up more room in the dock.

• System wide access capture keys are back: Apple-Shift+I for the whole screen and Apple-Shift+4 for a selection. They are used to the desktop as T3PP files.

In total, 10-15 days dozens of bugs and speed issues that used to drive us mad and Apple has promised to provide incremental upgrades every month, so things will continue to improve until the release of 10.2, probably in early MacWorld San Francisco at January or Tokyo, later in 2002.

New PowerBook G4 released

After only 10 months on the market, one of the bestselling PowerBook models in recent years has been updated. The Titanium G4 was released last January at MacWorld 2001 and marked the beginning of high computing rates for Apple, as it was followed several months later by all new iBooks. However, as the PowerBook G4 demanded a premium price (\$3,500 to \$5,000), it seemed to some that Apple should have kept the price a bit more entries, and so on Oct. 16th it did just that.

The new PowerBook G4 is slimmer, cheaper, and more flexible than the original and should prove to be a huge hit with PowerBook customers. On the performance side, Apple has answered most of the complaints about the first G4 laptop by addressing CPU speeds and bus speed. The CPU speeds have been increased to 550 and 667 MHz from 400 and 500 MHz, and the 667 MHz model features a 133 MHz main bus, which is a first for an Apple portable. However, those purchasing the laptop may find that low profile 133 MHz RAM is quite pricey for the

first few months, so you may want to wait to upgrade it.

The storage has been significantly upgraded as well, with a 20 GB hard drive on the low end and a choice of 30 GB or 40 GB on the top model.

The biggest complaint about the old PowerBook G4 however was the onboard 8 MB Rage 128 video chip. Apple has replaced it with a 4x AGP Radeon 16 MB card, which should offer more than double the performance of its predecessor.

Other small details include standard gigabit Ethernet on all models (laptop first) and an included Airport wireless card on the 667 MHz model.

RAM remains unchanged at 128 to 256 MB, but for a limited time Apple is offering double the RAM on all PowerBooks for a much more reasonable 256 to 512 MB configuration (similar cache only).

Overall, these machines are much faster than the models they replace while still maintaining the same 2.54 cm (1 in.) thickness and light weight.

As far as pricing, it's actually dropped.

Continued on page 45

SEARCH RESULTS

SEARCHED FOR: PowerBook

RESULTS FOUND: 10

Product	Description	Price
POWERBOOK G4 14.1" TITANIUM	1.4GHz 667MHz 20GB 14.1" TFT	\$2,999
POWERBOOK G4 14.1" TITANIUM	1.4GHz 667MHz 30GB 14.1" TFT	\$3,499
POWERBOOK G4 14.1" TITANIUM	1.4GHz 667MHz 40GB 14.1" TFT	\$3,999
POWERBOOK G4 14.1" TITANIUM	1.4GHz 667MHz 50GB 14.1" TFT	\$4,499
POWERBOOK G4 14.1" TITANIUM	1.4GHz 667MHz 60GB 14.1" TFT	\$4,999
POWERBOOK G4 14.1" TITANIUM	1.4GHz 667MHz 70GB 14.1" TFT	\$5,499
POWERBOOK G4 14.1" TITANIUM	1.4GHz 667MHz 80GB 14.1" TFT	\$5,999
POWERBOOK G4 14.1" TITANIUM	1.4GHz 667MHz 90GB 14.1" TFT	\$6,499
POWERBOOK G4 14.1" TITANIUM	1.4GHz 667MHz 100GB 14.1" TFT	\$6,999
POWERBOOK G4 14.1" TITANIUM	1.4GHz 667MHz 110GB 14.1" TFT	\$7,499

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SONY VAIO PI5500MHZ/162MB/6G/34XCD/FLOPPY/56K/13.3" DISPLAY/1364 \$1799

COMPAG PII500MHZ/192MB/8G/24XCD/FLOPPY/56K/13.3" TFT \$1699

IBM THINKPAD PI700MHZ/192MB/200G/500DVDRW/56K/13.3" TFT \$1999

IBM THINKPAD C650MHZ/24XCD/DISK WIRELESS/LAN/12.1" TFT LCD \$1499!!

Handspring unveils Treo

New line emphasizes communication, drops SpringBoard slot

By Megan Johnson

Handspring (www.handspring.com) has come to the rescue of those running out of pockets for the new device they currently need or want and compromise while on the move. In its new device, Handspring integrates email, messaging, Web browsing, cellular phone functions, and enterprise applications.

The Palm OS-based Treo comes in two models—the 180, which has a small QWERTY keyboard beneath its display, and the 180G, which has a longer screen

and no keyboard, for those who prefer to use Graffiti to input text. Along the bottom are buttons for launching phone, date book, Internet, and messaging features, and scrolling up and down. On the left side, below the headphone jack, is a jog dial for easy scrolling when the device is in the user's left hand.

The blue metallic case has a protective flip lid that doubles as a speakerphone and standard earpiece when opened. When closed, users can still view the display to see the icons of a calendar, address books, or scroll through the calendar and other applications.

To the low-cost Mac source

Continued from page 82

From the introductory prints of the old model, with a 250 MHz system selling for \$349.99 (down \$45), and the top of the line starting at \$4,699 (down \$25).

There are also some new build-to-order options. For example, you can now get a 40 GB internal hard drive or external CD-RW drive, although these are still no "Book-style" DVD+RW/RAM combo drives.

The 180 300 MHz Book with CD-ROM drive remains virtually unchanged at \$3,999—the only benefit it receives are a larger 15 GB hard drive and an increase to 128 MB of RAM. The models with DVD CD-RW or memory drives, however, receive a significant across-the-board speed boost in the form of a 30 percent faster 300 MHz system bus and 680 MHz G1 processor.

Unfortunately, RAM remains at 128 MB for all models, but hard drives have been increased to 15 GB on DVD and CD-RW models and 20 GB on the combo drive model. The extra space remains unchanged, with all models coming with two USB ports, a single FireWire port, 1.4 MB Rage 128 video card, and video out.

The only change in price is the combo drive model, which falls \$100 to \$2,699. The new models with the faster bus and CPU are an amazing deal for consumer laptops and should sell very well over the holiday season.

All of the newly announced Book and PowerBook models include System 9.1.1 and OS X 10.1 on the hard drive, as well as a new AC power adapter that is more compact and portable than the old model. Q

Jane Stevens is a Macintosh II specialist based in Mountain View, CA. She can be reached at jstevens@mac.com.

Calls can be dialed using the on-screen number pad, clicking on one of 50-speeddial icons, or scrolling and clicking through the phone list, which can hold 1,000 entries and detailed call histories. Voice and data communications operate on GSM networks, and will be GPRS compatible (requiring a software upgrade). Handspring plans to release when GPRS services are widely available.

In addition to accessing POP3 email accounts, users can send and receive SMS (short message service), a feature used to send test messages to discuss with day-to-day life. The cellular phone's web browser chat manager. Recipients can be selected from the phone list, and compose SMS messages chosen from a pull-down menu.

For the kids, the Treo runs the Share known, which Handspring says is fully HTML and WML compatible and up to four times faster than other handheld browsers.

The Treo has a four-bit grayscale display capable of rendering 160x160 pixels; it measures 11in. by 7cm (4.5in. by 2.75in.) and weighs at 153 g (5.4 oz.)—about 1 cm shorter and narrower and slightly lighter than Handspring's standard Visor model.

It has an integrated dual-band GSM radio module, 16 MB of memory, a 3D Millie Materials Dragonfly processor, and rechargeable lithium ion battery. It includes a travel charger with USB HotSync cable (a serial cable is available separately) and handset. In addition to the Palm Desktop, the Treo comes with software for synchronizing with Microsoft Outlook out of the box.

Moving from the new device is a Springboard slot—the expansion port that helped distinguish Handspring's Visor from their Palm siblings. According to a company FAQ, "With this, Handspring hopes to have two distinct product lines: the Visor handheld computer and the Treo communicator line. For communication products, compatibility is of paramount importance and expandability is secondary."

The Treo 180 and 180G models will be available in Canada in early 2002 for about \$399. Pricing for GPRS service varies will depend on the provider. Handspring says it is currently in negotiations with GSM carriers and expects to announce a Canadian partner soon.

Also in the works, according to



Handsprint's new colour Treo, which it expects to debut in mid-2002 for about US\$399.

Danger adds camera to integrated device

Handsprint isn't the only company to unveil an integrated device this fall. Danger (www.danger.com), co-founded by Apple and WebTV veteran Randy Hahn, showed off its first product, the Hippo, in September. The small pogo-like device has a screen that flips up to reveal a tiny keyboard. Like the Treo, it has messaging built-in, as well as photo functions, but also has a digital camera option to the mix, allowing users to snap and send images within seconds.



Consumers will not be able to purchase a Hippo directly from Danger or hardware resellers, however. Instead, Danger says it will be selling its end-to-end platform (which includes a back-end service, members-based framework using programs written in Java, and the Hippo hardware) to wireless service providers who will then sell hardware and service bundles to consumers.

Danger says the Hippo will be available in early 2002, but expects it will be a couple of months before it has any announcements on pricing.

The company says it expects the Hippo will be available in Canada sometime in 2002. Availability here, however, will depend on how soon Danger finds a Canadian wireless partner. Q

New Book announced



The sleek newfangled Apple's idea in the consumer and education markets, offering a microcosm instant of power in a nice small package that was more

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Pentium 4 Value \$925

INTEL Pentium 4 1.8GHz

1GB RAM, 100GB Hard Drive, 16X DVD-RW, 1000Base-T LAN Card

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Mouse 1000 dpi Optical Mouse

Keyboard Full Function Keyboard

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► GIFT GUIDE ►

Spread the joy of
cable-free high speed
Wireless networking devices for
broadband sharing

by Sean Callahan

devices to help you share your
connection



If you're like most broadband users
you love the speed of the service but
don't feel particularly compelled to
pay more to your provider to add extra
components (and consequently IP address)
to your network. You can get
around that if you have extra networking
cards and some knowledge of network
leg. but a broadband sharing router is
generally the simpler solution, albeit
more expensive.

The router sits between your broadband
cable (DSL) modem and your
PCs, and acts as the central point
between your computer and the broadband
provider, so as far as they know
you're only a single computer connected
to their network. Here are a few new

Asus's Broadband series includes a few
variations on the cable/DSL router,
including this new wireless device. It



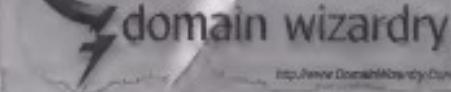
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addition to two LAN ports, the FR0031A-L1PC features a PCI Card slot on the back to add wireless connectivity to your local network.

In this package, an Ascent 800 11b PC card is included. All you have to do is plug it onto the back of the router, and then log in to configure the wireless settings, and, as long as your broadband settings are ready to go, your wireless devices will be up and running on the Net.

The router acts as a DHCP server for up to 250 devices on your local network—wired or wireless—and also serves as a hardware firewall to protect your machine from the outside world. The router comes with a built-in printer port, so all the PCs on your network can share a single printer. If you already have 802.11b wireless cards, you can just one in the back and just log the wireless interface of that device, the base FR0031A-L1, which retails for US\$139.

Ascent FriendlyNet AL200V1

Resell At: \$169.95 MSRP

Estimated price: \$149 (converted from \$99.95). If you have a desktop PC, you can only take a wireless PCI card if you log an isolated PCI adapter. If you're looking for something less expensive and easier to plug into a standard desktop PC, the



AscentLAN is for you. In a small silver box with a flip-up antenna and a port for a standard USB connection cable, which is included in the box.

Like the PC Card, it's designed to work with any 802.11b network (Asus or otherwise) or Apple Airport, with a maximum transfer speed of 11 Mbps. That's slower than what you can get when connected via Ethernet to other computers over a 100 Mbps LAN, but if you're using it in a wireless DSL/double sharing device the speed is as much as you'd get over your broadband connection anyway.

The included CD comes with a few extras, including WinZip, an FTP program, WinAmp, and both Netscape and Internet Explorer browsers. The AscentLAN Wireless USB Adapter is sure to come in on page 86.

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> GIFT GUIDE <

Spread the joy of cable-free high speed

Continued from page 85
possible with computers running
Windows 98, Me, and 2000.

Intel AnyPoint Wireless E Network

From \$199

monolithic
External price: \$299

Previously, Intel's focus for home net-
working has been on Hostess II, a wireless
product that was limited to speeds of 1.6
Mbps. While Hostess II's specs have
improved, Intel has made the shift to the

more widely implemented 802.11b.

The AnyPoint module is now a small
white box with flip-up antenna that con-
nects to a PC via an included USB cable.
The modules are designed to work with
Juice beans; the CD includes MovieMatch
software, and the co-crewing game Re-

RE-0500 (c) the sole unit in infantry battalions
relies on the intelligence operators. A quietly
the most specialized and highly trained troops
formation of any regiment.

If you want them to contact...

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ALREADY
DEAD.

Tom Clancy's
**GHOST
RECON**

EA
Ubi Soft



Vol. The adapters are compatible with
Windows 98, Me, 2000, and XP. A PC
Card version of the AnyPoint Wireless E
Network card is available for \$199.

More

These are the most recent products to be
seen on TCP's Test Lab, but by no
means the only products worth considering.
Check our back issues, notably "Gaming
wireless, the LAN connection" (TCP May
2001) and "Headz on IEEE 802.11" (TCP
October 2001) for reviews of other wire-
less products from Xircom, Linksys, D-
Link, SHG, and UpNet. Back issues are
archived online at www.computerpaper.com/Hits/Publishing/ on the home page
menu bar, then select The Computer
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Motorola looks at alternatives for powering consumer electronics

By Megan Johnson

The company that is introducing a whole new power source for its cellular phones later this year (see "What's New," T&P November 2001) says it is also making headway in developing alternative energy sources for other consumer electronic devices.

Motorola (motorola.com) has reported that scientists at its research labs in Tempe, Ariz., have passed some significant milestones in manufacturing fuel-cell batteries.

use in a range of devices that could include cell phones, laptop computers, and digital cameras.

A fuel cell is an electrochemical device that converts fuel directly to electrical energy according to the U.S.-based National Fuel Research Center (nrc.nsf.gov). Though invented in 1839, the technology has recently attracted attention as a potential replacement for the fuel-burning internal combustion engine. The automobile industry is interested in the technology because it extracts

energy more efficiently and emits relatively less pollution and noise. The appeal of the technology for laptop and digital camera users would be that, unlike a battery, a fuel cell does not run down or require recharging (it operates as long as it has a supply of fuel and air).

According to Motorola, early prototypes developed by its scientists used separate components surrounding the fuel-cell device to deliver fuel, determine its combustion, and separate the carbon dioxide generated from the liquid fuel. For the

current prototype, however, they have successfully scaled down and integrated many of those components, making the size of the combined device more suitable for use in small consumer electronics.

The experimental prototype measures 5x5x0.4 in. (12.7x12.7x1 cm), produces more than 200 mW net power continuously, and has operated for more than a week at a time. In the lab with little degradation in performance, Motorola says.

Anne Sherry of Motorola's labs says it

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Word command centre



Have you ever wished that your frequently used Microsoft Word documents were in one easily accessible place? Well, it's not only possible; it's a great way to set up your computer so that when you open a document in Word, links to the documents you use most appear there.

Now, you can set this up for someone who is new to Word, so they can instantly see which document they should use for which purpose.

This month, we'll create what I call a "command centre" for Word – a document that will appear whenever Word is loaded and from which you can click on icons to open an existing file or create a new one. We've created this command centre in Word 2000, but it should work just fine with other versions of the word processor.

Creating the page structure

To begin, create a new Word document, then size it to fit the screen. To do this, choose File, Page Setup, pick the Paper Size tab, and in Paper Size dialogue, choose Custom Size. Set the Height and Width of the page so it is approximately the dimensions of your screen. Using a ratio of 9:2 would be height 12 cm wide and 14 cm high, for example (words will).

Now choose the Margins tab and set the Top, Bottom, Left, and Right margins to 1 cm and click OK. If a warning appears telling you that the margins are outside the printable area of the page, choose Ignore (you won't be printing the document and won't the maximum page area to work with).

To view the document clearly, choose View, Zoom, Whole Page, and the page should fit inside the Word editing window.

Creating the images

To make a colourful command centre, you can use images for the links you create on the page. To do this, you'll need to make sure the images you plan to use are approximately the same before you begin (75 to 100 pixels high or wide is a good start). If you can't find an image relevant to each document you'll be creating a link for, in your command centre, use a single image and use it at different colours on your graphics software. The result will still be very attractive.

To reduce the size of an image in PaintShop Pro, open the image and choose Image, Resize, and click the Free Size option button. Type in either the width or the height you want and enable the Maintain Aspect Ratio of On to 1 check box. From the Resample Type dropdown list, choose Bilateral Resampling and click OK. (If Resample Type doesn't work for your image, choose the Smart Resample and click OK.) This will resize the graphic without distortion. Save the resized file. To use a single image in many colours, Copy and Paste to create the number of images



that you need and save them as separate files. You can then use these images in your command centre.

you need, position them, resize them, and finally save them.

Creating the links

Once your images are ready, you need to create the links. There are two processes for creating the links, and the type you use depends on what documents they open. A Hyperlink, like those you see on a Web page, opens an existing document. To make a link that opens a new document (to create a letter using a company template, for example), you have to create a macro. We'll look at both these methods in turn.

To create a simple hyper-link, first add the image to the document you'll use to anchor the link. Use Insert, Picture, From File, locate one of the images you've prepared, and click Insert. Right-click the image and choose Format Picture, the Layout tab enable the In Front of Text option and click OK. Move the image onto position on the page.

To add the link, click the image to select it and choose Insert, then Hyperlink, in the dialogue, click Existing File or Web Page, then click File on you can browse to find the document that you'll link to this image. Select the file and click OK. If you have bookmarks in this document and you want to open the document at a particular position, click the Bookmarks button, choose the bookmark you want and click OK. Click the Source Text button, type a brief description of the document, click OK, then OK again to exit.

To test your new link, click somewhere in the document away from the image so it isn't selected, then click the image. The document you linked to the image will now open in the Word window. You can close it by choosing File, then Close.

Continued on page 92

With Forward Part 2

Tools of the trade

*Part 1 of the *With Forward* tutorial series ran in TCP June 2001 (it can be viewed on our online archive at www.computerpaper.ca). In order to follow the tutorials, you'll need a copy of Flash 5. You can download a 30-day, fully functional demo version from the Macromedia Web site. While use of the demo is limited by time, it only counts the actual days you use it, so if you use it sparingly, you should be able to follow along for several weeks.*

Or, if a friend has a legitimate copy on a computer you can use, or if you can buy a copy while looking at the series of articles all the better.

By Helen Scherigli-Roberts

Like graphic artists who are skilled in using various pens, ink, or brushes, and paper, Flash artists need to know the tools of their trade to get the most out there. In this article, we'll take a close look at the various functions in the Flash toolbox.

Those who've used other professional graphics programs will be familiar with many of the tools here. What makes Flash different from a typical graphics program, however, is that it's raster-based—it automatically tries to optimize the矢量 art and shapes you draw.

Drawing lines

Click on the Line tool (it looks like a shorted line), then move your cursor over the Stage. The cursor will change to a crosshair icon. Click your left mouse button and drag it across part of the Stage. When you release it, you'll see that you've drawn a straight line connecting the beginning and end points.

The default colour for the line is black. If you want to change it, click on the Arrow tool (a solid black arrow just above the Line tool), then click on your line. You'll notice that your line now appears "streaked," indicating that it has been selected. Now, go down to the Colors section and click on the icon beside the usage

Continued on page 92

Reading up on Linux

Four books to get you up to speed on the open source OS

By Rogers Sawyer

Recently, Linux has come under more and more virulent attacks from Microsoft, with its executives wondering aloud whether open source Linux will signal the end of commercial property as we know and love it in the computing world.

But Linux advocates reply that their OS has some of the leading transaction processing benchmarks for queries, and that new Tax and Apache Web server performance measures are 2.5 times better than Microsoft's best Web servers on identical PC servers.

In effect, you know Linux has arrived when Microsoft starts attacking it with some of its inverted FUD (fear, uncertainty and doubt) logic.

The simple fact is that Linux is doing quite well in the server market, particularly for Web server machines where it is the fastest growing operating system at the world.

In addition, Linux has gained momentum in the embedded processing field because the combination of its robust performance, free royalty price, and open source is very conducive to development needs in that arena.

But Linux has been slow to take off on the desktop despite having nice user interface, automating GUI interfaces (GNOME 1.1 and KDE 2.0) plus a growing number of top-notch applications lead by Apple, GIMP, and Suse.

And now, desktop and notebook PCs running Linux can be ordered directly from major PC makers like Dell and IBM.

So if you want to find out the latest on Linux for either business or practical home use, here are four books worth considering.

Inside Linux

Author Michael Tiemann

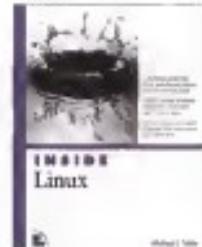
Publisher O'Reilly Media Inc.

www.oreilly.com/catalog/linux/index.html

Price \$39.95

Rating: 4.5/5

Linux distribution manual, with nice gear descriptions of setup and TCP/IP networking configuration
Rating: 4.5/5



This book gets users started in Linux at very comfortable fashion. Think of Inside Linux as an approachable combination of a primer, started manual, plus a user's guide to Caldera, Redline, Slackware, and SuSE distributions of Linux.

Tobler spends a lot of time explaining utilities, such as RPM (the resulting software on Red Hat and other Linux systems) and XFree86. Her configuring the X Windows files for windowing operations with the KDE or GNOME GUI interface. Using speak boxes floating with these entries, trying to gammatize them functionally, it is a pleasure to see these topics clearly covered.

You know Linux has arrived when Microsoft starts attacking the OS with some of its inverted FUD (fear, uncertainty and doubt) logic.

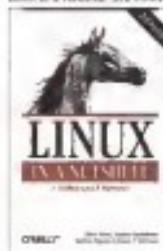
But Inside Linux goes beyond the desktop needs and addresses some of the areas for using Linux as a Web and network setting. Network administrators and Web developers will appreciate the chapters on FTP, DHCP, and TCP/IP because networking capabilities of Linux.

But Apache and the pre-performance champion on the block, the Sun Web Server, are not covered.

Inside Linux nonetheless is a welcome reference not just for getting started but

also working around inside the OS.

Distro in a Nutshell® 3rd Edition



Afshin Ganjei, Steve Soper, Stephen Spaulding, Stephen Turner, and Inna Zhitova
Publisher: O'Reilly Press
www.oreilly.com/catalog/distro/index.html

Price: \$19.95

Rating: 4.0/5

Review/Discussion: Highly technical report on creating compact and complete releases. The tables of commands are comprehensive and concise while being descriptive. With 250 pages in the main part, most of the chapters, indices and table of contents are too meager.

Content/Coverage: The Nutshell books are par-

icularly commendable references that help fill in the lack of detailed manuals and reference material for open source software. Linux is moving so fast that regular topic pages are not widespread because older topics are slow to disappear. Coverage of package management happens in this text. Coverage of Linux concepts and theory makes up for some of the misplaced attention.

Rating: 4.5/5

Part of the problem with working in Linux is the vast heritage of Unix programming that can sometimes hang like an albatross around us neck. People complain that there aren't enough programs available to Linux users and developers, whereas the opposite is actually true—there are too many.

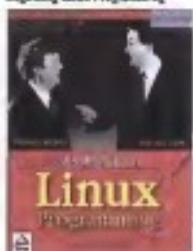
This book comes home to roost in Linux in a Nutshell. The book does a good job of covering all the Linux low-level commands that Web developers and system administrators in particular will need to know. These are well organized with major optional settings duly noted.

But the examples are sparse—clobbering

only about one in four commands. And the authors could have treated some of the vestigial command/options that will be effectively replaced by GUI programs like file manager, Metacity browser and other services.

In fact, that is our main beef about this otherwise excellent reference. Devoting 30 pages to those old editing tenses is and emacs, or 77 pages to gawk, and 70 pages for version control that could have been spent on better coverage of KDE, Apache, PHP, or PERL, means the O'Reilly books need to sharpen their pencils. The result is that Linux in a Nutshell is a good reference but not all that it could be.

Beginning Linux Programming



Audrey Tang, Sean Evans, Stephen Spaulding, Stephen Turner, and Inna Zhitova
Publisher: O'Reilly Press
www.oreilly.com/catalog/beginning/index.html

Price: \$39.95

Rating: 4.5/5

Review/Discussion: Check-list of programming examples with lots of example circuits and highlighting. A few more screen shots of intermediate results would be helpful.

Content/Coverage: Once nearly what the title indicates, however, got around in the recently updated world of Linux programming. Much will be obvious to Unix programmers, but it is invaluable and comprehensive to world of Linux programming. Linux kernel types should also be O'Reilly's book of choice since chapter 10 is GDB programming, but GDB is a 5+ member Rating: 4.5/5

Professional Linux Programming

Author Neil Matthew, Richard Steven et al
Publisher: O'Reilly Press

Continued on page 13

Word command centre

Continued from page 39

You can add text links for your documents in a similar manner to creating the image link. Type the text in the document, select it, and choose Insert, then Hyperlinks. Follow the previous instructions for locating and selecting the file, choosing a bookmark and adding a ScreenTip.

It's a good idea to add text links as well as image links, particularly if you're using simple images to represent a document. Making the text clickable allows you to click either the text or the image to open the file.

Creating macro links

As we mentioned, adding links to create new documents from templates is a different process. To do this, you'll need to create a small macro and link it to the image.

To create the macro, make sure you're viewing your Word command centre document. Choose Tools, Macros, then Insert New Macro. Give the new macro a name, such as CreateNewsletter (you can't use spaces in macro names). Then, from the Start Macros In dropdown list, select the name of your command centre document and click OK.

Creating a standard text link is similar to the process above. First, double-click where the text is to appear. But this time, you'll only need a single set of field codes (Control + F9) and you'll create code inside them that looks like this:

```
(MACROBITION CreateNewsletter Create a new letter)
```

Test that the link works, then continue to add hyperlinks or macro buttons to create links to all the documents you want easily within it.

Right by double-clicking in the document where you want the image to appear and create a field code by pressing Control + F9. If you don't see a pair of curly brackets on the screen, press Shift + F9 to display them. Move your cursor between the brackets and type *macroName* followed by the name of your macro. Press Control + F9 again to end the first set of brackets inside the first set. Within the second set type *Hyperlink("C:\program files\hyperlinks\CreateNewsletter")*. You will, of course, need to replace the *program files\hyperlinks* path with the location of the image you plan to use. Note that the syntax of this command requires you to use two back slashes in the path name (as shown) so as to create a single backslash in the path.

So, for example, to run the macro CreateNewsletter when you click at the image later, simply as it is currently located in the *C:\program files\hyperlinks\hyperlinks* folder, you will create code that looks like this:

```
(HYPERLINK "C:\program files\hyperlinks\hyperlinks\CreateNewsletter")
```

Test that the link works, then continue to add hyperlinks or macro buttons to create links to all the documents you want easily within it.

Formatting the text links

You'll find formatting of the text links will be different depending on the type of link you've created. For a slide presentation, you can make changes to the built-in styles so the text links look the same. To do this, choose Format, Style, select Hyperlinks from the Style list, then pick Modify, Format, and Fonts. Change the formatting to the settings you want, and click OK twice. Still in the Style dialogue, choose Followed Hyperlinks from the Style list, then select Modify, Format, Font, and repeat the process of changing how elements of your links appear.

If you want links to look the same whether you've clicked them or not, choose the same style for Followed Hyperlinks and Hyperlinks. Choose OK twice, then Close.

New hyperlinks will be formatted using the modified style you've created. To apply this style to the links created using the macro田ation field codes, select the text, and choose Hyperlinks from the

```
'Hyperlinks' command (F9) or the keyboard shortcut Control + Shift + F9.
```

To finish, press Shift + F9 to hide the codes if you don't see the range on the page, choose Edit, Select All, then press F9 to update field codes. Your image should now appear.

To test the link, click somewhere in the document away from the code, then double-click on the image. A new document based on the template you selected when you created the macro should appear. You can close and discard this document as you don't need it.

Creating a standard text link is similar to the process above. First, double-click where the text is to appear. But this time, you'll only need a single set of field codes (Control + F9) and you'll create code inside them that looks like this:

```
(HYPERLINK "C:\program files\hyperlinks\CreateNewsletter")
```

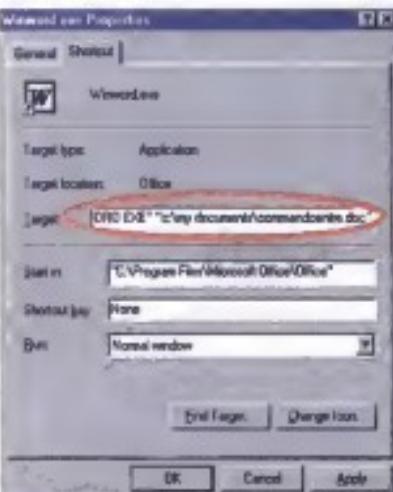
Test that the link works, then continue to add hyperlinks or macro buttons to create links to all the documents you want easily within it.

Formatting the text links

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New hyperlinks will be formatted using the modified style you've created. To apply this style to the links created using the macro田ation field codes, select the text, and choose Hyperlinks from the



Style list on the Formatting toolbar

Rebinding touches

Break the document off by adding a binding to the page to welcome the user. It's easiest to position text on the document if you use a Text Box (select Insert, then Text Box). To remove the border and fill from the text box, right-click on it, choose Format, Text Box, and pick the Colors and Lines tab. Set the Fill Color to No Fill and the Line Color to No Line. Click OK.

To ensure that the Field Codes aren't displayed (but there results are), choose Tools, Options, the View tab, disable the Total Codes checkbox at the top right of the dialogue, and click OK. Save your document, taking note of the file name and path to the document.

To make sure you can open the document and that it macros will run, change Word's macro security level by selecting Tools, Macros, Security, and the Security Level tab. Select the Medium option and click OK. Now close Word.

To test your new customized centre file so it opens whenever Word is loaded, create a backup of your current Word icon by holding the Control key as you drag a copy of the icon away. Use one of the two Word icons you now have, right-click it, and select Properties. After the test that identifies the location of your windows.exe file in the Target line, type the path and filename [in double quotes] to the file you just copied. For example, if the file is called CommandCenter.doc and it is in your My Documents folder, you'll need to type:

```
"My Documents\CommandCenter.doc"
```

Click Apply, then Close. Right-click on the icon again, choose Rename, rename the icon something like WordCustomizedCentre, and press Enter.

Now click your new icon and Word will open your new Command Centre file loaded. You'll be prompted to enable or disable the macros, as select Enable Macros.

To open one of the files later, just double-click its icon. The command centre will remain open in Word until you close it, and it can be used over and over again to assist existing documents and create new ones. Q

Hyperlinks are invaluable in using Word on-line. As they appear regularly in a number of publications in America, Canada's the IT and the PC Gazette offers a free download of the



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Tools of the trade

Continued from page 48

of the pencil. A color palette will appear, and you can choose a different colour for your line. Note the hierarchical numbering that appears at the top of the dialogue—by default, off the colour value belongs to the “Web safe” palette, which means any colour you choose will display properly without any Web browser.

Now, right-click on your line. You'll notice a number of different options appear from the menu. Click on Bevels, and you'll notice that your line is now surrounded by a set of transparent boxes. If you move your cursor over one of these boxes, you'll notice a “double-headed” cursor that allows you to grab the box and drag the line. Right-click your mouse again, and select the Reset option. The

box will turn to circles, and you can now rotate the line. These two functions are very handy for creating simple annotations—you'll be using them later.

Using the pencil and pen tools

If you want to draw simple, freehand lines, use the Pencil tool. Click on the Pencil icon in the Tools palette, and you'll notice your cursor changes into a pencil when you move it onto the Stage. Try drawing a wavy line. When you release your mouse, you'll notice that the line you've drawn appears a bit more jagged than the line you drew with the Line tool. That is because Straighten is the default option for drawing lines.

To change that, go down to the Options palette and click on the stepped line icon. Two other options will appear: Smooth

and Ink. Select Smooth and try drawing a regular-looking, smooth line. When you release, you'll see your jagged line has been softened as the program “smooths” the line. Go back to the Options palette and choose Ink. This particular setting will provide you with a line that more resembles what you draw, though you will still notice some smoothing occurs.

The Pen is a very different drawing tool. It can create either straight lines or curves based on new or more points. Select it, then click anywhere on the Stage. Now click somewhere else on the Stage. The line will immediately be drawn between the two points. Go somewhere else on the Stage, click and hold the mouse button down. Now you'll see a line connecting the mid-point of the previous line to the new point, along with a line opposite and perpendicular from the mid-point of your line. If you know your mouse around, you'll notice a cursor has appeared, and the farther away you are from the midpoint of the line, the more exaggerated arc of the curve. This tool is excellent for creating perfect curved laser pointers.

The brush and erase tools

Like the Pencil, the Brush tool allows you to set a specific line width. Click on the Brush tool, and when you move it over to the Stage, you'll notice a thick black circle

appears in place of your cursor. Hold the mouse button down, and you'll draw a thick line across the Stage. The Options palette contains a number of different choices you can play with. Click on the first drop-down menu to change the dimensions of the brush. Click on the second drop-down menu to change its shape. (We'll take a look at the Brush blade option in a separate article.)

The Eraser tool works pretty much the same way as the Brush tool, but “wipes” objects instead of erasing them. Select the Eraser tool (at the bottom-right of the Tools palette), then move it around the Stage and let your mouse button. You'll see all of your previous entries being erased. The Options palette also has a drop-down menu of eraser shapes (not as massive as those of Brush shapes). There is also an option here called Eraser. It is used to erase entire lines (or segments of lines) or any filled shapes.

Now you have the basics of how to manipulate simple lines on the Stage in Macromedia Flash. Q

Next Rush Forward! Creating shapes

Kirch Scheng-Roberts is the author of three books on the Mac series iLife '04, including “Moving your own Web site” (with iPhoto) and i-Commerce Flash. You can contact her at kirch@jewel.com.

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CAREERS & TRAINING

Microsoft Publisher Tips & tricks

Continued from page 94

Select the Design Gallery. Type a name for the object and pick one of your own categories from the existing list (or type in a new one). To use the object at a later date, choose Insert, Picture, Object, select View Objects tab, choose the desired category, find the object, and click Insert Object.

Scratch it

The search area around your Publisher document is a handy place to store items you think you'll need later. Since it stays the same, regardless of where you are in your document, it's also a great place to store items as you're moving them around. It doesn't print and will be saved with the document so the items will be there next time you open the file.

Quick draw

Instead of clicking a shape and dragging

your mouse to draw it, click the shape then click in the document. You'll get a perfectly proportioned default-sized shape that you can then drag to size.

Creating multiple shapes

When you need to create more than one of a particular AutoShape, click the AutoShape tool then hold the Control key as you click the shape you want to create. Now drag the shape in the document. Use the mouse and drag again and again to create as many copies as you want. If you hold the Shift key as you drag the shape, you'll get nicely proportioned shapes. Unfortunately, our previous quick draw tip won't work with shapes but this trick does work on text frames, picture frames, tables, and even WordArt frames. **CJ**

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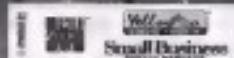
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A D INDEX

Careers & Training	1000 SYSTEMS	54	Notebooks	
DARWIN Technologies	94	95	Angel	35
Dimension	11	96	Acusoft Universe	86
Software	86	97	Termi	87
Source Image	94	98		
Star Tronic	12	99		
Wimex	94	100		
Xtron	15	101		
			Online & Downloaded	
			Acme Vintage	48
CP Board			AEI Internet	7
ED Garton	100		ABP Canada	10
			Aircard Inc.	48
Computer Inside			Self Synthetic	80
Computer Workhouse Online			Blue Generation	18
			CA Register	77
			Comdial Net	63
Banana Computer	84		Cybernet Solutions	62
Frothy Roots			Dalektron	88
HARDWARE INNOVATIONS	15		Dream Alchemy	84
HAGE INTER			EasyDOS.com	58
SecondNet	87		Eden Precision Solutions Inc.	27
Techline Computer Inc.	90			
			Ecsoft	27
Computer Books			eBayTesting.com	88
Computerfest 2001	37		Ecwid	58
Small Business Information Expo			Electronix	88
			Karen Online	34
			Messa Internet Solutions	71
Hardware & Software			NetNation Internet	24
3000 Computers	82		Pichaway	21
ai Computer	82		SATI	100
A TOP COMPUTER	28		Tarco Technologies	11
A.I.C. Tech	38		Thick Big	38
All Computer	29		W3 Internet	11
ADM Computer	46			
Advanced Computer	83		Service & Consulting	
Advantage Computer	31		1 DataCell	101
Alternate Source	26		CCU Technologies	101
AMR Services	40		GCA COMPUTER	101
Adviser	18		ComNet Systems	101
Alex Computer	24		Demrix.com	101
SME	25		DonaldKerry@Com	101
Emerson Computer	45		Dox Mailer	101
Lanista Computer	38		Informa Consultants	101
Caron Canada	34		Monitor Plus Inc.	101
Computer Canada Corp	15		Monitor Asia Centre	101
Computer Solutions	37		Quantum Media	101
Computerworld Depot	30		Roscom	100
Computer Central	48		SPI Technologies	101
Computer Ultra	42			
Cofnsoft Computer	44		TCP Services	
Dell Canada	3		eBay Canada Inc.	98
Extreme People	23		ICP Subscription ad	96
Dynex	31			
Educa Com	23			
Educa Computers	101			
Fidelity Direct	47			
Fern PC	33			
			Scanner Manufacturers	
			APD International	75
			Compton Devices	80
			Waveletron	29

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P1000	1133"
P1000	1135"
P1000	1137"
P1000	1139"
P1000	1141"
P1000	1143"
P1000	1145"
P1000	1147"
P1000	1149"
P1000	1151"
P1000	1153"
P1000	1155"
P1000	1157"
P1000	1159"
P1000	1161"
P1000	1163"
P1000	1165"
P1000	1167"
P1000	1169"
P1000	1171"
P1000	1173"
P1000	1175"

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- Windows, Keyboard and Mouse
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